THE CHRONIC PAIN EXPERIENCES OF 21ST CENTURY COMBAT VETERANS INJURED IN CONFLICT: AN INTERPRETIVE PHENOMENOLOGICAL ANALYSIS

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Dedication

To my grandfather Kenneth Hughes (Royal Navy & POW) - My hope is that through your pain and suffering, that this study will help to make a difference. A small contribution in helping military personnel and veterans receive the care they deserve to live a meaningful life without pain.

To all our present serving military; our veterans; fallen; wounded, injured and sick.

Thank you for your service and sacrifice.

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Lastly, to my mum, thank you for always believing in the importance of this study.

Abstract

Survival among military personnel injured in Afghanistan and Iraq conflicts has significantly improved compared to previous wars, due to advances in battlefield trauma medicine. However, managing a lifetime of chronic pain has left a devastating impact on veterans who are also having to face life changing injuries. Significant gaps in the literature suggest a need for more enriched research around veterans' pain experiences. This study therefore aimed to explore the lived experiences of 21st Century Combat Veterans that have been injured in conflict and living with chronic pain.

Interpretative phenomenological analysis (IPA) was used to explore these lived experiences. The study included Semi-structured interviews, with 10 participants who sustained battlefield injuries whilst serving in Iraq and Afghanistan conflicts. Participants had served for the UK Armed Forces, from all three branches of service, and the elite special forces. All were commissioned and non-commissioned ranks.

Within the findings, five significant themes were identified: Call of Duty; Vulnerable and Wounded: Who Am I? Pain is Personal: Living with Daily Pain; Healing the Warrior Within: The Journey of Transformation and Self-Acceptance; and I AM- Who I Am Now. Participants shared their experiences in the form of a veterans lived recovery journey, which included feelings of abandonment and gaps in care, and the need for supportive relationships. Further research is needed to explore veterans pain experiences; experiences of using long term opioid medications; gaps in veterans care and care pathways; healthcare education and training around veterans' care; and comorbid conditions. A whole health model of care and pain is needed, using the biopsychosocial-spiritual model, which is transferable across all military and civilian care pathways.

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1.0 Chapter One: Introduction

1.1 Introduction

This research offers a unique, rich, and meaningful insight into the lived experiences of UK 21st century combat veterans with battlefield injuries, living with chronic pain. It provides a greater understanding of wounded veterans individual experiences of managing and coping with daily pain. Capturing their experiences of life changing injuries from the point of wounding, through to military medical discharge, and their overall recovery journey. The findings of this research offer's important and new knowledge about the gaps in veterans care and research. Contributing to much needed research in the areas of present and future care implementations, policies, and the long-term care management of pain in veterans.

Veterans are an under-researched group which are hard to reach and access from outside of the military community. Furthermore, pain is a sensitive topic that military veterans find difficult to acknowledge, or speak about (Matthias *et al*., 2014). This study provides a unique insight into the stories of veterans, who at times are reluctant to share their individual experiences of combat and pain. A phenomenological approach was adopted to explore veteran's experiences, through using a distinctive, inductive approach. Which engages with the human lived experience, and the meanings that are attach to the experience.

1.2 Understanding the Battlefield Injuries of Iraq and Afghanistan Conflicts

Over the last 20 years, the UK armed forces have experienced prolonged combat operations such as Op TELIC (Iraq) and Op HERRICK (Afghanistan).Which also saw some of the most catastrophic polytrauma injuries sustained by military personnel since the First World War (Gauntlett-Gilbert and Wilson, 2013). These battlefield injuries were caused by impacting weaponry inclusive of explosives such as land mines, improvised explosive devices (IEDs),

small arms, grenades, rocket propelled grenades (RPGs), and mortar attacks (Chandler, MacLeod, Penn-Barwell *et al.*, 2017).

The progression of clinical management and improved understanding of wounding mechanisms of those injuries, saw the development of pioneering advances in battlefield medicine. This resulted in the survival rates of severely wounded personnel doubling by the end of the conflicts, compared to the beginning of the Afghanistan conflict in 2001 (Spear *et al*., 2018; Bricknell, 2014). According to Surgeon Lieutenant Commander Jowan Penn-Barwell, 572 UK military personnel casualties survived despite injuries classed by the NHS as 'life-threatening', and 38 casualties survived with injures classed by the NHS as un-survivable. In 2001 to 2014 there were at least 295 single, partial, or complete amputees and at least 109 significant multiple amputees; with 75% of combat casualties due to explosive weapons (Penn-Barwell *et al.,* 2015; DASA, 2010; and Aldington *et al.,* 2011).

However, with these advances in the survival of personnel with catastrophic life changing injuries, came further complexities around resuscitation; long periods in critical care; exacerbations of secondary injuries; with the development of multiple infections; progressive tissue death; and multi organ failure. Military service members with polytrauma commonly had to undergo at least 5.5 emergency surgical procedures per person (Gironda *et al.,* 2006; Gawande, 2004; and Clark *et al*, 2007).

The long-term impacts of these injuries for serving personnel and veterans, can involve a lifetime of ongoing surgeries, infections, rehabilitation and learning to adapt. With many having to face traumatic brain injuries; secondary neurological conditions; maxillofacial injuries; burns and skin grafts; major limb deformities; limb amputations; co-morbid physical and mental conditions (Tintle *et al.,* 2010; Scott *et al.,* 2009; and Clarke *et al*, 2007). Damage to the peripheral and central nerve systems in combat injuries commonly results in

severe acute pain. Early prevention with aggressive and interdisciplinary pain treatment has been shown to minimize long term progression, even with those with complex co-morbid conditions (Kalra *et al.*, 2008; Helmer *et al*., 2009; Gauntlett-Gilbert and Wilson, 2013).

US military and veteran pain research indicated that untreated, or undertreated pain post wounding is the cause of greater long-term physical disability and emotional distress (Clark *et al.*, 2007). In many cases, prolonged acute pain leads to complex chronic pain syndromes (ACA, 2011; Dougherty, Lister, 2011; Scott *et al.*, 2009; and McCaffrey, 1968). The consequences of these complex-injures and daily pain means that wounded soldiers commonly face prolonged recovery and rehabilitation. These can be marked by challenges in coping with persistent pain and the stress of integration into civilian life (Higgins *et al.*, 2010; Ketz, 2008; Brown, 2008; and Helmer *et al.*, 2009). Many veterans find their own methods of coping, and managing daily pain (Gironda *et al.*, 2006). Department of Veterans Affairs (VA) state that over half of the US veterans injured in the conflicts of Iraq and Afghanistan are living with chronic pain (Veterans Affairs, 2012; Clark *et al.*, 2009). However, at present there is limited research or statistical data that highlight how many UK veterans in total are living with chronic pain (Gauntlett-Gilbert and Wilson, 2013).

1.3 Veterans Experiences of Pain

There is a paucity of literature on UK veterans' pain, in particular in-depth explorations of the experience of pain. More specifically, there is little known about 21st century veterans injured in conflict with battlefield injuries and living with chronic pain.

Research from the US indicates that very few intervention studies address chronic pain in veterans, particularly those who have served in Iraq and Afghanistan (Matthias *et al.*, 2014). It is clear from the research within some commonwealth countries that little has been done

regarding chronic pain or long-term injuries. In addition, literature available outside of the US, from the commonwealth countries continues to centre on mental health, Post Traumatic Stress Disorder (PTSD), and lower back pain in serving military personnel (VanDenKerkhof *et al.*, 2015).

The US, UK, Canada, and Australia were the leading military forces during the conflicts in Iraq and Afghanistan that shared the experiences of life changing battlefield injuries. Military and veterans pain research within these countries is still relatively nascent. The background context and literature for this study aims to provide a broader understanding of pain research, to identify the gaps in knowledge not just within the UK, but also internationally. An overview of veterans' healthcare systems and access to healthcare will be provided in this thesis. Providing context for particular barriers to healthcare and models of care. In addition, healthcare awareness and understanding of veterans' pain; opioid addiction in wounded veterans in chronic pain; comorbid chronic pain, traumatic brain injuries and / or PTSD are also explored.

A large number of injured veterans are experiencing pain that is poorly managed. The limited literature has identified the importance to explore the lived experiences of injured veterans, to fully understand how chronic pain has impacted their lives. There is particularly limited information on UK veterans, and while the literature from outside the UK provides some insight, although sparce. Health care systems and support vary globally, so it's necessary to consider the perspectives of the UK injured veterans' community.

1.4 Positioning of the Researcher

I have nursed serving military personnel and veterans within the boundaries of the NHS emergency care directives, neuro complex care, and end of life care. Furthermore, since 2003, I have used voluntary therapeutic harp music with UK and US serving military personnel and wounded veterans, to help with sleep deprivation, mental health, and daily wellbeing. These experiences as a nurse and therapeutic harpist, created and developed a deeper interest in veterans experiences of pain through academic research.

I was awarded a Part-time PhD Funding and Scholarship Fellowship from RCBC Wales (Research Capacity Building Collaboration). Initially, my project aimed to examine the use of harp music as an intervention for chronic pain in veterans. However, during the beginning of the planned research, it became clear that there was a deficit within the literature regarding veteran's experiences of pain. As part of the preliminary phase of my original study, I conducted a series of qualitative interviews with veterans about their experiences and strategies for managing pain. The richness and openness of their stories revealed experiences that had not been previously explored in the literature. I felt it was important that their stories were heard. There was less of a focus on the use of music/harp during the interviews and more on their journey of experiencing pain. Uncovering and discovering these rich insights and the contribution they could make resulted in a reflective process on how I wished to take the work forward. I realised that I was more interested in '*what it was like for them'* (Smith, 2004) and felt not exploring their experiences would be a disservice to an often-overlooked population. I began to explore possible qualitative approaches that could be employed in my research and after a detailed appraisal (outlined later in this thesis) decided to use Interpretative Phenomenological analysis (IPA).

During the beginning of the PhD journey, I sustained injuries on duty as an emergency nurse. However, continued to nurse clinically whilst receiving complex dental reconstruction and long-term treatment for managing chronic pain. I therefore embarked on my own journey of discovery, engaging with a new method, and reflexively evaluating my own experiences to understand the phenomena.

Inspiration for my research also came from loved ones, family, and friends that have served. Some have also been wounded in conflict, that resulted in life changing injuries. The biggest inspiration was my heroic grandfather. A Naval veteran, who served 4 years of his Royal Naval career as a Prisoner of War (POW) in Hong Kong and Japan (Captured Christmas Day 1941). He was also one of the only surviving prisoners that was being transported on-board the hell ship '*Lisbon Maru.'* The long-term impacts of his experiences; emotionally, mentally, morally, and physically, meant that for the rest of his life he continued to suffer with physical and complex chronic pain; mental torment; and hidden wounds. Ultimately, I embarked on this research journey with a strong passion to make a difference in the lives of our veterans by listening to their personal voices with meaning and purpose.

1.5 Methodological Approach

With the change of direction in methodological approach the research aim was reframed to: '*What are the lived experiences of 21st Century Combat Veterans with chronic pain secondary to combat injury'*.

Due to the gaps in the knowledge and literature it was important to use an approach that would be more explorative. An approach that provided space in the study to probe deeper into the lived experiences, uncovering subtle and more complex issues such as chronic pain; coping with chronic pain; perceptions of pain itself; medical discharge; and pain resilience.

As the aims and philosophical beliefs adopted for this research were qualitative in nature. The techniques explored for the collection of qualitative data was guided by the type of information being sought. Various qualitative approaches were explored when looking for the right methodology for this study, which included grounded theory, ethnography, and phenomenology. Interpretative Phenomenological Analysis (IPA) which is also one of several approaches to qualitative phenomenological psychology, was also explored due to its combination of psychological, interpretative, and idiographic components (Smith, Flowers, & Larkin, 2009).

The aim of IPA with its theoretical origins in phenomenology and hermeneutics, is to explore in detail how participants are making sense of their personal and social world. The main prevalence for an IPA study is the meanings of, and in particular the individual experiences of the participants (Larkin, Watts, and Clifton, 2006). This study uses the IPA approach as the method of choice to explore these lived experiences, using semi-structured interviews within the data collection. The interviews were conducted with 10 participants that have sustained battlefield injuries, whilst serving in Iraq and Afghanistan conflicts.

This thesis provides a detailed and critical account of how IPA was employed to provide a unique perspective of veterans' experiences of chronic pain. Particular attention is given to the reflexive nature of the research. Also, the role of rigour throughout by including an appropriate sample, data collection and analysis. Phenomenological approaches can be challenging for any researcher. The time, intensity and rigour required should not be underestimated. However, the opportunity to engage with participants accounts with sensitivity, openness, and honesty, whilst embracing a phenomenological approach. Has resulted in the rich attainment of data not explored previously.

1.6 Thesis Structure

Following this chapter, Chapter 2 will provide a critical review of the literature on topics related to the aim of this study. More specifically, this includes, defining pain and pain theories; veteran's experiences of pain; and access to healthcare. Chapter 3 will discuss the methodology and why Interpretative Phenomenological Analysis (IPA) was the chosen approach for exploring the lived experience. Chapter 4 outlines the researcher's journey through the research process including the research design, data collection, rigour, ethical considerations, and researcher reflexivity. Chapter 5 will highlight the interpretation of the themes that have been developed using IPA. Chapter 6 discusses the participants findings, which is considered in the context of relevant literature. The final Chapter 7 concludes with contribution to knowledge and study limitations, which are presented along with the implications for policy and practice, and suggestions for future veterans' pain research.

1.7 Conclusion

The aim of the introduction was to give a broad background to the importance of this study. Providing an overview context around the battlefield injuries sustained, and highlighting the long-term impact of those injuries, including chronic pain. The positioning of the researcher was discussed, with the inspiration behind the study. The methodological aim and Interpretative Phenomenological Analysis (IPA) approach of this study was introduced.

Chapter 2 will provide a critique of the literature, highlight the gaps in this area, and provide further justification for this research.

Chapter Two: Literature Review

2.0 Chapter Two: Literature Review

2.1 Introduction

There is a scarcity of UK and international research that seeks to highlight chronic pain in the military veteran population, with much less qualitatively from the perspective of those wounded in conflict and living with chronic pain.

A review of the current literature forms an essential part of the explorative process of this study. The aim of the literature review is to inform what is already known within this area of research, offer a critique of the literature, highlight key areas of information, and identify gaps in the available knowledge and research.

2.2 Search Strategy

A literature review was conducted to establish a knowledge base of the present research relating to the chronic pain experiences of 21st century combat veterans injured in conflict. In the literature search a number of search terms were used along with other specific factors such as the inclusion and exclusion criteria.

Inclusion:

- Wounded military veterans injured in conflict
- Op Herrick/ Op Telic and OEF/OIF veterans
- Battlefield Injuries (BI)
- Life changing injuries
- Living with chronic pain
- Post 2000 Conflicts of Iraq and Afghanistan
- Research papers and literature within the last 20 years (21st Century)

- Written in English
- Lived experiences
- Research papers and literature published in the United Kingdom, the United States, Canada, Australia, and Europe. Which relates to the leading countries that served in the Iraq and Afghanistan conflicts.

Exclusion:

- Research papers and literature published pre-year 2000
- Pre- year 2000 conflicts such as Northern Ireland, Balkans, Falklands, World War I and II, Vietnam, Gulf War, Korean War
- Injuries from service or non-battlefield injuries
- Mental Health (only, without physical injuries or chronic pain)

The following search terms and electronic databases were used:-

Search Terms	PubMed	CINAHL	Scopus	Google Scholar	Medline
"Lived experiences of veterans injured in conflict, living with chronic pain."	0 *Exact	0 Exact 4,536 *Found	0 Exact	0 Exact 30,100 Found 124 *Related	0 Exact
"Wounded veterans' perspectives of living with chronic pain."	0 Exact	0 Exact 382 Found	0 Exact	0 Exact 17,350 Found 97 Related	0 Exact

Search Terms	PubMed	CINAHL	Scopus	Google Scholar	Medline
Iraq AND Afghanistan Veterans AND chronic pain	10 Exact 64 Related	0 Exact 128 Found	0 Exact 71 Found 34 Related	0 Exact 20,400 Found Related 136	0 Exact 33 Found
"OEF/OIF veterans experiences of living with chronic pain."	1 Exact 12 Found	0 Exact 443 found	0 Exact	0 Exact 5,830 Found Related 54	0 Exact 615 Found
"Op TELIC OR Op HERRICK veterans living with Chronic Pain."	2 Exact 27 Found	0 Exact 7 Found	0 Exact	0 Exact 43 Found	0 Exact 27 Found
"Chronic Pain in Wounded Military Veterans."	2 Exact 70 Found	0 Exact 272 Found	0 Exact 4 Found	3 Exact 120 Related 30.600 Found	0 Exact 7510 Found
Veterans AND Chronic Pain	3 Exact 2,666 Found	0 Exact 674 Found	0 Exact 1,223 Found	42 Exact 542,000 Found	1 Exact 1,565 Found
"Chronic Pain in Veterans with Battlefield Injuries."	0 Exact 4 Found	0 Exact 480 Found	0 Exact	0 Exact 25,300 Found	0 Exact 2,069 Found

Table 1: Search Strategy

Found - the total number of potential hits the search engine listed

*Exact findings - searches that included the search terms

*Related findings - searches that had some content related to the search terms

Further investigation of the literature led to the following sources being utilised: British Library, Embase, National Electronic Library for Health (NELH), NCBI, Research Gate, Wiley, Trip and Cochrane Database.

Due to the limited research on lived experiences of veterans injured in conflict and living with chronic pain, manual searches were carried out on a number of academic journals, which may not have been included within the automatic search engines in order to collate further information, journals included: *'Nursing Standard', 'Nursing Times', 'Royal Army Medical', 'American Nurse Today', 'American Journal of Nursing', 'Pain Journals', 'Pain Medicine', 'Military Medicine', 'Journal of Rehabilitation Research & Development', 'Military Psychology', 'Science Direct', 'JAMA International Medicine', 'Journal of Military', 'Veteran and Family Health', 'Armed Forces & Society', 'BMJ Military Health', 'Canadian Military Journal', 'Journal of Military Studies', 'Journal of Veteran Studies', 'VA Office of Research and Development', 'Australian Department of Veterans Affairs', 'Journal of Military', 'Veteran and Family Health'.*

In addition, various grey literature that include present and current military, and veterans literature and research were also visited: Veterans & Families Research Hub, Forces in Mind Research Centre, Advanced Study DMRC, Kings Centre for Military Health Research, Ministry of Defence (MOD), U.S Department of Veterans Affairs (VA), Department of Defense (DoD), Centre for Blast Injury Studies UK, Help for Heroes, BLESMA, SSAFA, RBL, Walter Reed Army Institute of Research, NCIRE -The Veterans Health Research Institute, Canadian Institute for Military and Veteran Health Research, Veterans Affairs Canada, Centre of Excellence on PTSD Canada.

Abstracts were reviewed for relevance using the inclusion criteria. Some of the articles did not have a central focus on veterans' experiences and so were excluded from the review. Relevant papers were read and reviewed, with some being excluded at this stage as they did not focus on chronic pain. Primary research papers were critiqued using relevant CASP tool checklists in order to assess the quality of the research.

It was important at the beginning of the review to consider definitions of pain and relevant pain theories to provide a context for the research. The review then progressed on to veterans' experiences of their pain. Considerable attention was also given to health care systems and access to health care for veterans internationally, to provide a global context for 21st century veterans.

2.3 Defining Pain

To better understand the lived experience of pain, it is necessary to explore the definitions of pain (Mann and Carr, 2009). The original and most internationally used definitions of pain that is used in clinical practice are discussed below.

Dr John Bonica (1953) defined pain as '*personal, emotional and subjective experience for everyone'* (IASP, 2021). As the U.S Army leading consultant anaesthetist, he experienced the personal pain of wounded military veterans through treating their battlefield injuries. He stated that the meaning and experience of pain was unique, with multiple layers of long-term complexities contributed by daily life, trauma, and relationships. Dr Bonica founded the International Association for the Study of Pain (IASP) from these experiences of caring for the wounded. This view of pain influenced others, according to McCaffrey (1968) '*Pain is whatever the experiencing person says it is, existing whenever the experiencing person says it does*'; thus, describing pain as subjective, personal, and unique (McCaffrey, 2000, p.2;

Dougherty and Lister, 2011, p.501). Mann *et al.* (2009), argued that *'pain is an individual personal experience, which is not caused solely by a painful stimulus'*; meaning that it is not just the pain itself that creates intensity for the individual. That numerous factors within daily life can also play a key part within the coping and managing of pain. Bonica (1979) stressed the importance of frequently reviewing the definitions of pain in light of new knowledge and medical advancements. That the definitions and recommendations of pain were "*to serve as an operational framework and guide, not as a constraint on best practice and future advancements*" (Cuhls *et al.*, 2013: Bonica, 1979, p.249-252; and Malik, 2020,p.2). There have been several criticisms over the original terminology used within Bonica's and others original definitions highlighted in the paragraph above. In particular concerns have been raised as to whether these definitions of pain were still current and relevant within today's best practice around the multidimensional entity of pain, and in the treatment and management of pain (Cohen, Qinter, and Van Rysewyk, 2018).

A recent revised definition by the International Association for the Study of Pain (ISAP, 2020) was formalised and adopted. The definition states that pain is "*an unpleasant and emotional experience associated with or resembling the associated with actual or potential tissue damage*" (Malik, 2020,p.1; and Raja *et al.*, 2020). The timings of the new definition unveiling also came in concurrence with the review and updated versions of the International Classification of Disease-11 (ICD-11), by the World Health Organisation (WHO) that have classified chronic pain as a listed disease.

The added notes that accompany the new pain definition (IASP, 2020) attempts to include further inclusions of pain. Which also includes the influential and adverse impact on daily function, psychological and social wellbeing. The notes also highlight forms of verbal and non-verbal expressions but lacks guidelines and recommendations around how to manage

this in clinical practice. Furthermore, there are no considerations around vulnerable individuals and safeguarding concerns (Cohen, Quinter, and van Rysewyk, 2018). In relation to this study, the relevance is significant for those vulnerable veterans with chronic pain and complex injuries including brain injuries, neurological conditions, and PTSD. Meaning that their human rights around the experience of pain suffering and quality of life could be at risk, due to the lack of guidance to manage pain in these vulnerable groups.

It is clear that the revised definition and its notes cannot be considered ever complete with the constant development of medical knowledge and innovation within the field of pain (IASP, 2020). However, the revised definition is as an indefinite work in progress towards the integral universal understanding of pain and the experience of pain. The relevance of this, to this study is particularly important with veterans and their relationship with managing and coping with daily pain.

Malik (2020) and Aydede (2019), also discuss particular vulnerabilities within the new definition around the pain experience and "*failing to capture the full range of suffering*" (Malik, 2020,p.3). Criticisms of this are particularly directed at the frustrations of trying to manage pain as physicians in individuals, within the realms of the mind-body impact. The interpretation of pain, and the experience of pain being so individual that is difficult to measure physically as a physician. Therefore, again highlighting that pain is possibly being under managed in some individuals living with severe pain. In other individual's, there is also the risk that pain is not being interpreted accurately at all. Thus, impacting on the physician's ability to provide the most effective pain medications and management plan. These concerns were also identified in a report by the Welsh Government (2019) which seeks to highlight the significant impact of living with persistent pain. Notably, the term persistent pain is used rather than chronic pain which aligns with various Welsh Government

policies focussing on patient centred approaches to care. The aim of the report is to understand the importance of pain, and pain prevention. Also, to highlight current professional practice, pain management research and clinical signposting. The main objective is to reduce the risk of secondary physical and mental medical conditions, and addictions to pain medications. Creating greater focus on providing individual support to the people of Wales that are living with persistent pain (Welsh Assembly Government , 2019; Welsh Assembly Government, 2008).

2.4 Chronic Pain

Persistent pain, which is more commonly known as 'chronic pain' can be defined as '*pain that exists for more than 3 months, lasting beyond expected time of healing'* (Treede *et al.*, 2015). It can stem from infection, life changing injuries, or chronic diseases including inflammatory conditions or cancer. In many major trauma and life changing injuries, chronic pain can originate from pathophysiologic changes in the central nervous system that may also adversely affect an individual's emotional and physical well-being, cognition, level of function, and quality of life. Furthermore, it is becoming increasingly recognized that acute and chronic pain can also present itself as a combination of complex pain, and not just separate entities (Macintyre *et al.*, 2010).

Chronic pain has been described as multiple variations (McCaffery & Beebe, 1989). Experiences of pain have been described as burning, twitching, spasms, contraction, breath taking, aching, stabbing, throbbing, random, episodic, exacerbated, flare ups, transient and transitory pain (Mann and Carr, 2009). Due to this chronic pain serves no useful purpose for the individual but creates distress and grief. Diagnostically and therapeutically chronic pain is approached as a chronic disease (McCaffery & Beebe, 1989).

2.5 Pain Theories

A variety of seminal theories of pain exist, such as '*Gate Control Theory,'* '*Three Dimensions Theory*,' and the '*Neuromatrix Theory.'* However, for the purposes of this thesis the most relevant theories of '*Psychoneuroimmunology (PNI),'* and '*Biopsychosocial Model of Pain*' are discussed, due to their influences around present veterans' pain care, the experiences of pain, and coping and responses to pain.

2.5.1 Psychoneuroimmunology Model (PNI)

Some of the most simplistic forms of the mind-body and immunity connection were documented by Florence Nightingale (1863), within her nursing notes during the Crimean War. Whilst nursing the thousands of wounded soldiers at Scutari, Nightingale observed the "*effect of the mind on the body, and the importance of creating the correct environment and wellbeing that is conducive to the recovery and healing experience"* (Halldordottir, 2007). This interconnectedness of the mind-body experiences of war, trauma and living with chronic pain, further enhanced the understanding around the immune system and the mind, of what was later recognised as "*Shell shock*" during World War I and II (Harrington, 2008). The relevance of this history connected with war and caring for wounded soldiers was felt to be significant with the exploration of this study, and further understanding of the care of our wounded, no matter the war.

Still relatively a new theory within the field of pain, particularly within the field of veteran's research. The PNI model, especially highlights the fight or flight responses of survival, pain, and continuous heightened stressors, which are felt by military personnel and veterans from the impact of deployments and multiple deployments in hostile environments (Cuellar, 2008).

Psychoneuroimmunology (PNI) as its own model of study explores the physiological and psychological impacts from the interactions between the endocrine, immunity, neural and behavioural process (McCain *et al.*, 2005). Within the realms of PNI, chronic pain is recognised as a multifaceted condition, its influence has been particularly seen within the patient care realms of autoimmune conditions such as HIV, oncology, and palliative care (Buckley, 2002 and Warth, Koehler, Weber *et al*, 2019). PNI considers that pain is impacted by multiple factors such as by sleep deprivation, anxiety, depression, continuous trauma, wear and tear on the physical body, inflammatory responses in the body, central nervous system, the gut-brain axis and also brain injuries. These alternations have also been identified within veterans with comorbid health conditions (Derke *et al.*, 2016).

Key aspects of this approach have been particularly influential within the development of further pain theories, with interconnections within the biopsychosocial models. Therefore, the next section will explore the biopsychosocial models of pain.

2.5.2 Biopsychosocial Model of Pain

The Biopsychosocial Model, developed by Engel (1977) combines the interconnections within biology, psychology, and socio-environmental factors. This model was not originally developed specifically under the theory of pain itself, but for health and disease models within the fields of human development, health, psychology, and medicine (Gatchel *et al.*, 2018; Gatchel, 2004; Bevers, Watts and Kishino, 2016). Nevertheless, revolutionised the mind-body approach within the complexity of pain, particularly, within the mind, body, and spiritual levels of the self (Lehman, David, and Gruber, 2017). This theory continues to define chronic pain and recognised for its multifaceted approach for the treatment and management of chronic pain (Karunamuni, Imayama and Goonetilleke, 2021). In recent years, the topics of spirituality and culture are also considered within this model (Lehman,

David, and Gruber, 2017), due to this the biopsychosocial model has become increasingly popular model within the realms of fundamentals of person-centred care, particularly within palliative care, care homes and complex care (Greer and Joseph, 2016).

2.5.3 Biopsychosocial Pain Model in Veterans

An adaption of the Biopsychosocial Model by Gatchel (2004), that was based on the foundations of Engel (1977) original biopsychosocial model, was developed around non-cancer related pain (CNCP) in veterans. This theoretical model provides a heuristic approach (Baria *et al.,* 2019). It also includes fundamentals based around the foundations of psychoneuroimmunology, which helped connect and identify dimensions of psychological stressors, physiological impacts, and sociocultural factors that are unique to veteran's experiences (Gallagher, 2016).

Baria *et al.* (2019) identifies US studies and literature of the diverse types of contributing biological factors of injuries and pain. These are related to military training, combat related injuries, co-morbid conditions, and long-term chronic conditions such as Musculo-skeletal, neuropathies and inflammatory conditions (Clarke *et al.,* 2007 and Rivera *et al.,* 2017).

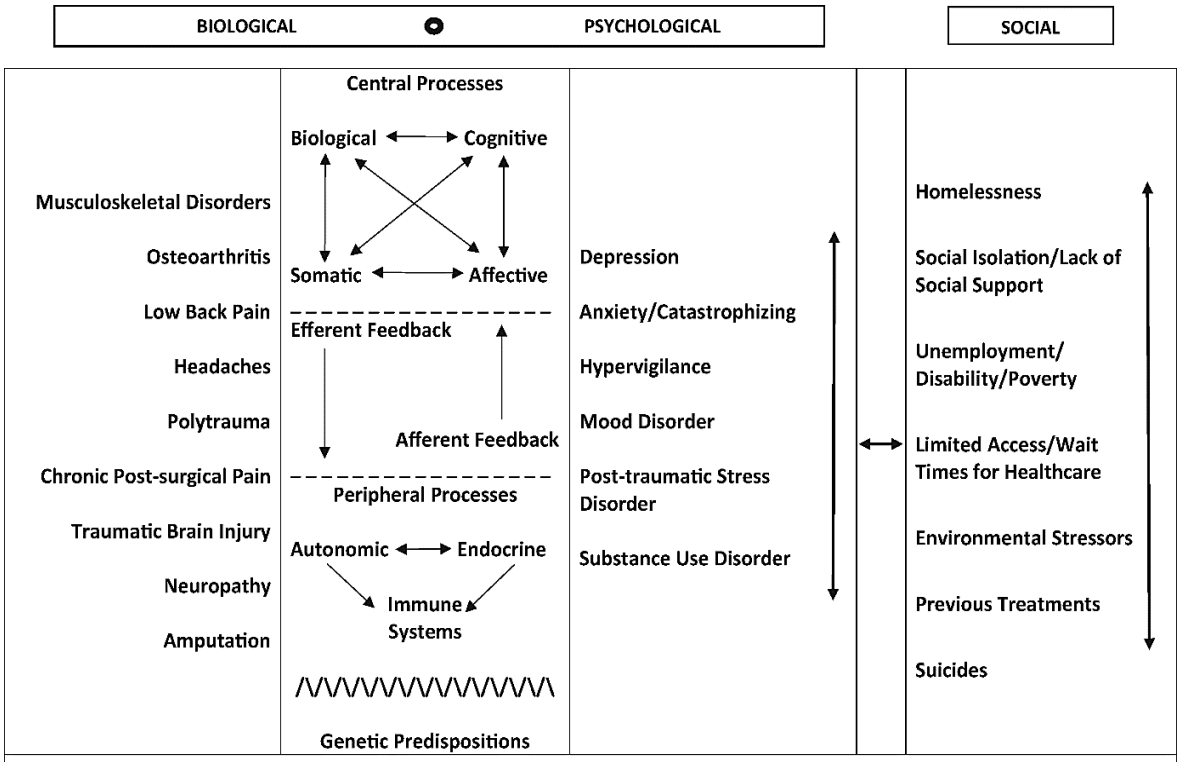


Figure 1: Adapted BPS Pain Model for Veterans. Comorbidity of chronic pain and mental health disorders: The biopsychosocial perspective. (Baria *et al.*, 2019, p3).

The psychological factors that were also identified, include behavioural responses and emotional reactions to stressors within the environmental impacts such as hostile environments, emergency response, disaster and humanitarian relief, national security, intense military training exercises, and special forces selections (Gatchel, 2004). Mental health disorders such as PTSD, depression, and anxiety in veterans can be significant factors that influence the management of chronic pain. These factors can also increase the risk of suicide, medication addiction and substance use (Park *et al.*, 2015; and Strong, Ray and Findley *et al.*, 2014). In addition, these can impact on veteran's ability to cope, which has been identified to impact on a multiple of social factors such as homelessness (NCHV, 2020), poverty, and further disability (Gabriellan *et al.*, 2014).

The adapted pain model identifies under its social influences, that access and barriers to healthcare was a major concern for veterans. The Veterans Association (VA) also stated that they underestimated the number of wounded veterans from the Iraq and Afghanistan conflicts needing life-long medical care. (Elnitsky, Andersen, Clark *et al.*, 2013). From the recommendations of the 2010 pain task force report (discussed later in this chapter)and the clinical lessons learned of the Iraq and Afghanistan conflicts (US Department of Veterans Affairs, 2017). The Veteran's Association (VA) and Department of Défense (DoD), in 2018 developed new working models around the biopsychosocial approach and multimodal methods. These are at present being piloted and applied within the veteran's services and clinical practice. Therefore, this theoretical model is particularly more focused and directed towards those in clinical practice outside of the VA and DoD who are caring for veterans, future military, and veteran's research (Rosen *et al.*, 2017; Franco *et al.*, 2016). This adaption has not created any further new studies or research information as it only summarises other research that has been completed, therefore its purpose as a model can only guide or inform current and future veterans' care. Further research is therefore recommended on the personal impacts and management of pain conditions (Baria *et al.*, 2019).

The models and the literature discussed so far focus on the impacts of care pathways and the impact of pain. However, they do not seek to explore how people live through pain. The aim of this study is to explore this deficit of research around veterans lived experiences of pain.

2.6 Contemporary Theories of Coping with Daily Pain

From the above literature, pain has been described as a multimodal experience. The adapted biopsychosocial pain model in veterans summarised and highlighted current literature. However, the included literature does not explore veterans' experiences of living and coping with daily pain. Therefore, to better understand the lived experiences of veterans living and

coping with daily pain, the literature in this section will focus on the contemporary theories around resiliency, coping with pain, and how these impacts on the experience of pain.

2.6.1 Resilience - Adjustment and Adaption to Chronic Pain

With pain being a personal experience, understanding pain and coping with daily pain, can be challenging for any individual. It has been often observed that some individuals struggle with managing chronic pain; whilst others with significant complex pain find effective ways of adjusting and coping (Newton-John, Mason, and Hunter, 2014, p.1). These individual behaviours around the response to chronic pain, can lead to either disability or capacity (Ramirez-Maestre, de la Vega, Sturgeon and Peters, 2019).

The traditional medical model approaches around coping with pain, recommend medical treatment and intervention management. However, these models have been challenged in recent years with a greater focus on the biopsychosocial approach. With newer models such as Sturgeon and Zautra's (2010) pathways to resilience becoming the foundational paradigm within the literature around resilience and pain. Figure 2 illustrates the complexity associated with pain adjustment, impact on adaption, and recovery, which includes the dimensional aspects of the biopsychosocial model approach. These include the cognitive, emotional, environmental, and social factors that affect the primary outcomes of '*Recovery, Sustainability and Growth.'* Three different perspectives of resilience are also identified that highly impact the resilience pathway, 1) adaption outcome, 2) responses to diverse types of stressors, and 3) the social world connections around the individual. (Reich, Zautra, and Hall, 2010; Zale and Ditre, 2015; Sturgeon and Zautra, 2010). The pathway effectively illustrates the complexity and multi-dimensional components of resilience.

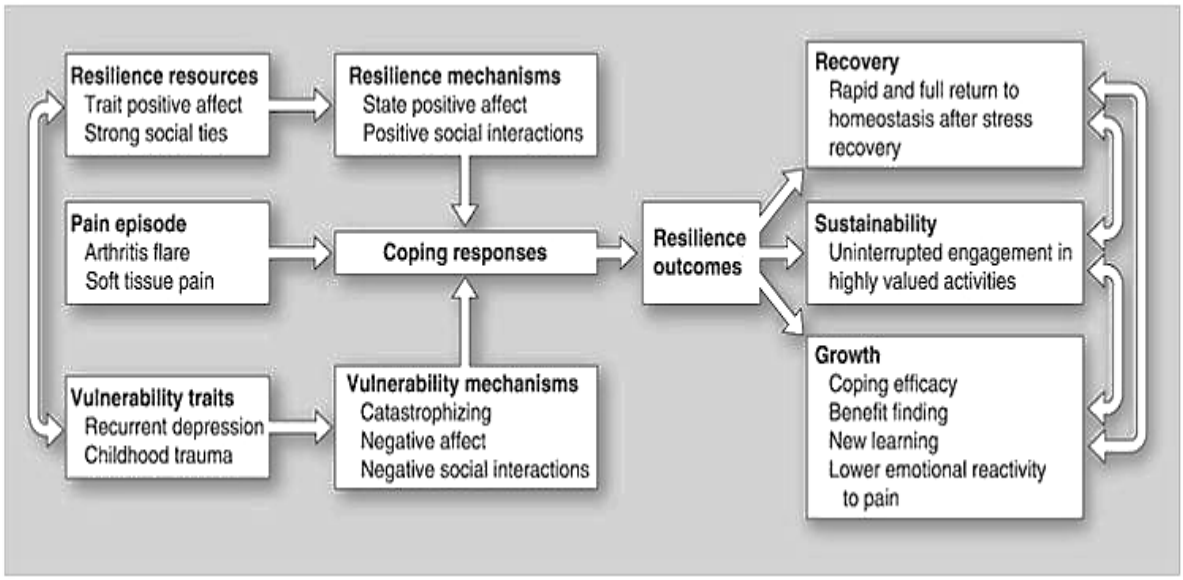


Figure 2: Pathways to resilience for those in chronic pain. Resilience: a new paradigm for adaptation to chronic pain. (Sturgeon and Zautra, 2010).

The pathway suggests that the mechanisms in particular are key denominators within the coping responses and outcomes. These sources of mechanisms can be seen as positive or negative dependent on the individual's ability to cope, within the realms of adaption and adjustment to pain (Ramirez-Maestre *et al.*, 2019). Furthermore, a recent research review around pain resilience by Goubert and Trompetter (2017) has also identified the adaptive and maladaptive coping responses around pain. Therefore, to better understand how individual veterans may cope with daily pain, some of these reactional responses and the impact on the biopsychosocial elements is explored further. These include the fear-avoidance response, finding acceptance, and meaning focused.

2.6.2 Fear-Avoidance

Within the biopsychosocial models around persistent pain experiences, fear-avoidance has been recognised as a significant factor around the daily coping of pain and arguably the first response that is experienced by individuals after injury (Smith *et al.*, 2018). Within the adjustment to pain, Vlaeyen and Linton (2000) highlight the key role of behavioural coping

efforts (specifically, avoiding painful situations rather than approaching and confronting them). During the recovery period, fear and hypervigilance around the pain experience can be identified as a natural "*fight or flight" or "Active-Passive"* and healing response within physical conditions of survival, therefore protecting the body from further harm or injury (Zale and Ditre, 2015). Pain intensity, severity and frequency will impact significantly on the fear-avoidance experience. In military veterans this "*fight or flight"* is instinctively more hypervigilant and heightened, from military training, but even more so due to having been wounded on the battlefield.

However, further studies around pain-related fear and avoidance have supported more recent data to suggest that the emotional impact on the recovery and adaptability period between acute injury and chronic pain, is significant to the individual's sustainability and growth in the aspects of resilience (Hemington *et al.*, 2017). Furthermore, Goubert and Trompetter (2017) discusses the impacts of functioning through recovery and within the resilience outcomes of sustainability, that was identified within the dual-factor model of risk and resilience. Which highlights also the individual positive and negative factors of adaptive and maladaptive functioning.

The longer an individual experiences this fear and avoidance, the more pain emotion and catastrophising thoughts will be involved causing a fear around movements, mobility, and physical activity (Wertli, Rasmussen-Barr, Weiser *et al.*, 2014). As also illustrated by the Vanderbilt Pain Management Inventory (Brown & Nicassio, 1987), and the Fear-Avoidance Model (Vlayen and Linton, 2012) pain that causes fear-avoidance or passive behaviour around the experience of pain creates withdrawing from others. This includes avoiding talking about pain, or taking medication to get immediate pain relief, but creates alcohol, or drug dependency (Ziadni *et al.*, 2020; Vlayen and Linton, 2000). These behaviours can

create further pain, long-term suffering, and functional disability, impacting on the pursual of favourite and positive activities, but also leading to a cyclic spiral of deterioration in physical and mental wellbeing, complex co-morbid health concerns and a difficulty coming to terms with a changed self (Halligan & Aylward, 2006 and Picavet *et al.*, 2002).

From the above literature, outcomes focus around the negative and maladaptive mechanisms of coping with pain. However, present pain research has not gained much interest or attention around recovery adaptiveness, sustainability, and the importance of moving towards the management of long-term outcomes of pain, particularly around adversity.

2.6.3 Finding Acceptance

There is little research or literature that identifies, explores, or describes the veterans' personal journey of recovery, the experience of loss of self and finding acceptance, and pain acceptance in particular (Harris *et al.*, 2018; Thompson, Lockhart, Roach *et al.*, 2017). Smith *et al.* (2017), stated that most literature focusses on social integration and adjustment post discharge, but lacks knowledge around the acceptance journey that impacts engagement and disengagement, within the process of adaption and adjustment. Therefore, further research needs to explore veteran's experiences of pain which will help to better understand the experience of adaption, adjustment, recovery, and ability to cope with daily pain (Vaunter *et al.*, 2020; Clark *et al.*, 2007; Sturgeon and Zautra, 2013; Ravn *et al.*, 2018). Of the limited available literature on acceptance and pain, there are two very different, but clear response mechanisms identified around acceptance: 1) pain acceptance, and 2) finding acceptance (Harvold, Macleod, Vaegter, 2018).

Pain acceptance refers to the resilience ability to cope with pain, to personally engage and adapt around it on a daily basis with it without finding the need to rely on avoidance, heavy

sedation, as a form of coping (McCracken, 2005). Individuals that try and remain in control of the self through actively coping, but through avoidance and denial, may further contribute to increased pain and psychological distress (Strahl, Kleinknecht and Dinnel, 2000). If not managed can have a detrimental effect on resilience outcomes of recovery, sustainability, and growth, including adaption and adjustment (Petrini and Arendt-Nielsen, 2020; Ravn *et al.,* 2018; and Cook *et al.,* 2015).

Individuals who demonstrate significantly elevated levels of resilience coping and pain acceptance, even when facing and experiencing significant levels of pain demonstrate an elevated level of self efficacy and self-accountability (Smith and Zautra, 2008). Ramirez-Maestre, de la Vega, Sturgeon and Peters (2019) identified that some individuals will respond to injury and pain as a personal growth challenge, and therefore take responsibility for their own pain. Furthermore, these individuals are more adaptive, and will keep adjusting to their ability to cope with a multiple of levels of pain intensity over prolonged periods of time (Reich, Zautra, and Hall, 2010). These individuals engage in leisure activities, distract attention from pain by focusing on something else such as doing strengthening exercises, engaging fully in own recovery, and creating meaningful and desired goals. Developing strategies to compensate for their injuries and functional abilities and accept a new "*back to normal*" level of health, wellbeing, and quality of life. They also believe that pain does not justify a restraint in their recovery, or daily lives. They are also able to deal with a difficult day of pain and bounce back very quickly, perceive problems with optimism, as opportunities to develop, and grow their mindsets (Ziadni, 2020). Therefore, they have the ability to influence positive functioning even with pain, facilitate quicker and fully engage with the recovery process.

The resilience mechanisms and resources are influenced by key personality resources, which impact the coping responses to pain, which impacts on the outcomes of recovery, sustainability, and growth (Sturgeon and Zautra, 2010). In these individuals, they are able to overcome mental, psychological, and physical barriers by changing their thought process to overcome obstacles "*Observing rather than being the impairment*" (Besemann *et al.,* 2018, p.8), and will use forms of flexible physical and mental goal setting to be the best versions of themselves. But, within the realms of pain acceptance, individuals will also certainly find themselves trying to often find deeper and personal answers, that can impact on their physical and psychological ability to cope with pain. Those proactive individuals are more likely to recognise a change in reflective thoughts around more meaningful questions around life much sooner and seek professional support if those thoughts create concerns within the realms of mental health.

Finding acceptance is the second response process, which explores more the core meaning of self. This begins within the vulnerability and resilience mechanisms of the pain resilience paradigms, where the process of external and internal changes of the self are recognised by the individual. For many facing life changing injuries and daily chronic pain, having to define a new '*normal*' when being wounded is difficult to accept. Loss and finding acceptance within, is a deep, personally emotional, psychological, and spiritual journey of self-discovery around the pain experience (Besemann *et al.,* 2018). This is not a decision made by personal choice, but an enforced decision for participants in this study that was made by war. The moment of realisation, recognising, and acknowledging, that they have changed not through choice. Finding acceptance that their once strong military identity, and life as it once was, could now possibly be over (McCracken *et al.,* 2004).

2.6.4 Meaning Focused- Spiritual, Moral and Psychological Pain

Each individual's experience around finding meaning will differ (Saberi, 2004). The emotional, mental, and physical recovery journey is as mentioned earlier a personal one. This can be based on many factors such as, types of pain, injuries sustained, how the individual has coped with trauma before life changing injuries and pain, support, or lack of support from family or friends, cultural values and norms and socioeconomic factors. Furthermore, the biopsychosocial-spiritual aspects of finding meaning have progressively been gaining momentum within the field of veterans' care since the conflicts of Iraq and Afghanistan. Harris *et al.* (2018) found that research predominantly focused on mental health outcomes, with little if any research that highlighted spiritual distress with coping with physical pain.

A pioneering study regarding spirituality and its role within deployment and pain (Snider, 2009), revealed correlations between individual's levels of spirituality and other constricts of ethics, resilience, and pain management. Two factors that became clear within the study were moral courage/moral endurance and purpose of pain (Sherman, 2010). From this study important key statements were also uncovered by the US military on spirituality, life and the meaning of pain, perceptions of service, and individual effects on pain management (Appleyard, 2007 & Wester, 2009). Effective meaning making is likely to become a significant process that veterans have the opportunity to experience within their recovery process. Besemann *et al.* (2018) through reflections on recovery, rehabilitation and reintegration services of injured Canadian service members and veterans, discuss the importance of including the spiritual aspects within the recovery process as an important chapter within the healing journey of chronic pain. "*If one does not welcome the journey and take every step required, eventually the body rebels and speaks in a language that can no*

longer be ignored" (Besemann *et al.*, 2018, p10). Therefore, finding meaning in suffering and life is essential within the resilience outcomes of sustainability and growth for required healing.

The difficulty with life changing injuries and living with chronic pain is to find meaning and acceptance in life, when faced with such tragedy. "*Although each person's life meaning is different, existence that is merely a burden and lacks a purpose or direction or point produces the worst kind of pain*" (Byock, 1997, p.83). To process or capture the essence of effective meaning making, searching life purpose, and capturing the essence of spirituality, is described as "*a dynamic and intrinsic aspect of humanity through which persons seek ultimate meaning, purpose and transcendence, and experience relationship to self, family, others, community, society, nature and the significant or sacred. Spirituality is expressed through beliefs, values, traditions, and practices*" (Puchalaski, Vitillo, Hull *et al.*, 2014,p5).

Frankl (2004) touches on the meaning of suffering, that "*meaning is possible even in spite of suffering, the meaningful thing to do would be to remove its cause, be it psychological, biological, or political...life's meaning is an unconditional one"* (Frankl, 2004,p.117). A philosophical source of remarkable insights into personal pain and life changing circumstances is exemplified in Victor Frankl's account from living and working in the Jewish concentration and death camps, *Man's Search for Meaning* (Frankl, 2007). Frankl writes that *"Mans search for meaning is the primary motivation in his life. The meaning is unique and specific in that it must and can be fulfilled by him alone; only then does it achieve a significance which will satisfy his own will to meaning,"* (Frankl, 2004,p.105). Frankl in particular quotes the words of the philosopher Friedrich Nietzsche (Deleuze,1983) to explain the power of meaning to triumph over physical pain: "*He who has a why to live, can bear almost any how*." (Frankl, 2004, p.109). Thus, can be true of serving personnel that are

deployed with a mission to serve and protect. Pain and privation, of life changing injuries, can be endured if it is for a purpose more meaningful than oneself (Redsand, 2006).

Dr Edith Eger a trauma psychologist and Auschwitz survivor, talks about finding the meaning in suffering within her novels "*The Choice*" and "*The Gift*," but also discusses the challenges faced with different types of 'imprisonment' that can be caused by physical and/ or mental pain, and those who see pain as a punishment. This in particular has been described by individuals as "*Winning the battle but losing the war*." These soul-ceasing experiences, experienced by soldiers can also include the ethical, moral, and traumatic pain, caused by feelings of suicide, brokenness, helplessness, anger, frustration, caused from a loss of old self and identity, memories of multiple deployments, traumatic incidents, ethical dilemmas, moral conflict, with the daily harshness of pain and death experienced during deployments (Richardson *et al.,* 2020).

Furthermore, descriptions portray an inner soul conflict, a broken relationship with the self, with experiences of feeling shame, guilt, loss of meaning, purpose, and hope. Within the realms of the resilience pathway (Sturgeon and Zautra, 2010), moral or psychological injury in the aftermath of moral failure, would be a combination outcome of response, vulnerability and resilience mechanisms that impacts on individual's character and ability to cope with internal, physical, emotional, and psychological pain (Atuel *et al.,* 2020). Those who, become so conflicted by such deep experiences, their pain intensity is so overwhelming, that their own chronic pain, combined with moral, psychological trauma mentally imprisons their ability to find meaningful existence (Ashrafioun *et al.,* 2019). Therefore, they will use the fear-avoidance response of disengaging with the world, will engage with opioid medications, narcotics, and alcohol as a means to anaesthetise not just the pain, but the ability to feel any emotions and increasing the risk of suicidal death (Outcalt *et al.,* 2014; Tam,

Zeng, and Li, 2020). Recent international 2020 military research summit around moral injury (Atuel *et al.*, 2020) highlighted the significant gaps within the realms of moral injury theories, best practice, and research. It particularly highlighted the need for research around moral injury within the realms of biopsychosocial-spiritual realms, around functioning and mechanisms for daily resilience and further need for research around its connections within chronic pain (Atuel *et al.*, 2020; Farnsworth *et al.*, 2017).

2.6.5 Strength and Limitations: Theories of Coping with Pain

The components within the pathways to resilience effectively outlines the complexities of being a particularly distinct process, independently from the mechanisms involved. One theory that does particularly identifies with the pathways to pain resilience theory that highlights these complexities and importance of recovery and sustainability in the management of pain is the Fear-Avoidance Model. However, both these theories can be difficult to use in frameworks for more practical and applied context.

Most studies have been conducted on patients that have attended speciality clinics, whom have an elevated level of disability. Furthermore, some studies were originally conducted around the paediatric research realms of resilience and pain response. Due to this may have a different response outcome to studies completed in adults. Other limitations to some of the pain theories included using artificial stimuli in participants to create a response of acute pain, instead of understanding the human response to experiencing long term chronic pain.

Methodologically past studies have only used questionnaires at cross sectional studies, instead of longitudinally which could highlight further insight. Future pain theories may also benefit from measuring psychological flexibility in resilience mechanisms in pain reduction, recovery, sustainability, and positive growth, to better understand the importance

of understanding the pain experiences and its impacts on daily lives. Gourbert and Trompetter (2017) highlighted that more person-centred analytic approach may support how individuals best cope with an acute pain episode. Furthermore, to explore various aspects of how individuals can focus on developing strengths that play prominent roles in the effectiveness of pain adaption. With further research needed on the impact of social and interpersonal dynamics on the impact of recovery, sustainability, and growth. Also, further clarification on its application is needed on how it could be used in practice.

In conclusion this section of resilience and coping with pain, using the resilience paradigm (Sturgeon and Zautra, 2010) provided an opportunity to explore the mechanisms and coping responses to pain that are not explored or mentioned within the biopsychosocial pain model for veterans. Consequently, the complexities around caring for injured veterans with chronic pain was easier to understand. The biopsychosocial and biopsychosocial-spiritual approach highlight the complexities around the pathways to pain resilience and coping with daily pain. Dependent on personal characters and coping responses, each individual's outcomes will differ.

These responses are made more challenging by the mental, psychological, moral, traumatic, and spiritual pain that veterans experience, along with life changing injuries and chronic pain, for which individuals use coping responses such as fear-avoidance, finding acceptance and meaning focused. All will influence and impact on the physical experience of pain through the recovery process and the ability to adapt, adjust and heal from the challenges of carrying the pain of war. However, it does not include the aim of this study which is to explore the deficit of research around the veterans' lived experiences of chronic pain. The next section will explore the present literature around veterans' experiences of pain.

2.7 Veterans Experiences of Pain

From the general literature search, there was little qualitative research around the lived experiences of 21st century veterans injured in conflict living with chronic pain (Search Strategy, 2.2). Because of this, a further search was completed to explore the present literature around veterans' experiences of pain. However, the search only identified three grounded theory research papers: two UK papers and one US paper. Given the limited amount of literature specifically meeting the search criteria, the decision making resulted in the inclusion of all relevant papers available. All three papers were initially screened from the search results based on the inclusion and exclusion criteria (2.2), with a further exploration of the content of each abstract, before retrieving the full text. However, only one focused on veterans from the Iraq and Afghan conflicts but does not state whether these are just battlefield injuries, or all pain related to serving in these conflicts. The second paper focused on limb loss, which highlighted experiences of pain. The third paper discussed how army veterans cope with pain.

Due to the current dearth of literature around the battlefield injuries of 21st century veterans injured in conflict, and veterans' experiences of chronic pain. The decision was taken to explore the three papers in detail, to further understand and review the long-term impacts of pain on veterans.

The objective of 'A Burden on My Soul-Chronic Pain in Operation Enduring Freedom/ Operation Iraqi Freedom Veterans' was to gain understanding around the experiences and struggles of chronic pain and their social support (Matthias *et al.*, 2014). At the time this research was written there was such a significance of paucity of data on veterans' experiences of pain and little understanding within the VA (Veterans Affairs) of how to support younger veterans facing a lifetime of pain. The research was conducted by the VA

research department that implements evidence-based best practice; to explore this under researched community of 21st century veterans.

According to Matthias (2014) those participants in the ESCAPE study had served in Iraq and/or Afghanistan, with a moderate functional impairment and musculoskeletal pain. As one of the first pain studies around Iraq (OIF) and Afghanistan (OEF) veterans; the researchers were also mindful that these veterans were also experiencing a higher level of comorbid conditions in particular PTSD and/ or brain injuries than veterans from previous conflicts (Rogers, Kazis and Miller *at al.*, 2004).

The intervention arm of this research was received in 3 parts: 1) pain management via analgesia, 2) self-directed management of pain through education and instruction, 3) cognitive behavioural therapy (CBT). Only 121 participants were interviewed about their experience of the trial (ESCAPE see section 2.8, Evaluation of Stepped Care). From the larger purposive sample of 121 participants of the intervention study, 26 participants were randomly selected and interviewed for a qualitative study about their personal experiences with pain. A grounded theory analysis was used to focus on the understanding of veterans' own perspectives. The qualitative interviews were completed face to face, and interviews were conducted until theoretical saturation had been achieved. Two main themes that were explored within the interviews: perceptions of support and the emotional toll of pain on daily life.

The participants were recruited primarily in connection with the larger ESCAPE Intervention study and not recruited primarily for an in-depth qualitative study. Furthermore, this study had qualitative strengths providing some generalisability, but did not explore the full in-depth lived experience. The level of an in-depth analysis therefore can be questioned, and

the first phase of the intervention ESCAPE study may have had influence on using a grounded theory approach, for example pre-conceptions for the researcher (Charmaz, 2006).

A number of limitations within this grounded theory study were documented with full transparency. Participants were sampled from only 1 of the 170 Veterans Affairs hospitals and 1000 care centres nationwide. Furthermore, the study identified that the participant sample might not represent a true generalisation of the US military and veteran population nationwide. Due to a high percentage number of the participants in this study were white, one participant was multi racial, one participant was black, and none of the participants came from the Hispanic community (Harada *et al*., 2002).

It was not clear within the findings section what questions were asked about the larger ESCAPE intervention study. It only highlights findings from questions within the qualitative aspects of the study, around the emotional toll and the perceptions of support. Therefore, this study would have been better represented as a separate study exploring the experience of pain and emotional support aspects, with another study paper around the experience and outcomes of the ESCAPE intervention study.

The study did however highlight the importance of understanding the further need for more research within the experience of pain and coping with pain. Which also correlated with the recommendations of the US Military's Pain Task Force Strategy and Reports on the vision of the multi modal, integrated, biopsychosocial approach to providing support and care for OIF/OEF veterans and their families. The research and analysis also gave grounding for the new model of care to be veteran centred with veteran peer to peer support within its structure, which was also incorporated into the development of the new veterans' pain model of care. It highlighted further need for additional research into veterans' experiences of pain and coping with pain.

‘Caring and Coping: The family perspective on living with limb loss’ (Engward, Fleuty and Fossey, 2018), was commissioned and completed by Anglia Ruskin University, for the veterans’ limbless charity ‘Blesma’. The aim of this study was clearly documented, which was to explore the vital part that families play in the recovery and care of loved ones that have sustained limb loss.

The inclusion criteria comprised of amputations that were acquired during or after military service but does not include amputations caused by war or operational tours. However, the exclusion criteria included amputations caused by blast injuries and conflicts of Iraq and Afghanistan. Within the context of the literature review for this study, this Blesma study needed to be explored further, due to the paucity and limited research around veterans’ experiences, particularly those living with limb-loss, which also included managing and coping with chronic pain.

This study has been completed and published as a comprehensive report, which includes objectives of the study; a full justification for using a grounded theory approach; the sampling and recruitment process of 72 UK veteran participants and their families. With data collection that included unstructured interviews, structured questionnaires, and closed question telephone interviews. The researchers of this study have documented the findings with a unique balance of original narrations, case studies, recommendations and graph diagrams. Furthermore, they discuss the findings in correlation to the development of the Living with Limb Loss Support Model (LLSM), how this can be applied to practice; also, whether these findings are transferrable to the civilian population of amputees.

There are however some limitations identified within the study. Participants that had experienced positive support from the charity were self-selecting themselves to the study, however the study did not include those veterans that had poor experiences or did not receive

support from Blesma. The report does not identify the areas of the UK that were represented by participants, which could have been beneficial in highlighting fundamental gaps in care and further treatment of veterans, within NHS services and local health boards. However, it does highlight the personal journeys of those families, and the episodic support that they have received over the years from varied supporting agencies.

Further concluding recommendations from the study were included in relation to current practice and policy, to review frameworks for operational delivery of care, including collaborative community teams or complex care agencies and further healthcare training around understanding veterans' pain and identity. Obligations to be adhered to by the Armed Forces Covenant. It also identified significant need for further research around veteran's experiences of pain within this participant veteran group and narratives of pain to be explored. (Engward, Fleuty and Fossey, 2018).

The second UK study was 'How Army Veterans Cope with Chronic Pain (Hitch *et al.,* 2020). This study was conducted using a grounded theory approach to "*explore veterans experiences of developing coping strategies to manage chronic pain*"(Hitch *et al.,* 2020,p.1).

Seven participants were recruited, from a purposive sample of veterans that was "*taken from the English Army population, live in England only, within six English regions"* (ibid, 2020, p.2).The first researcher has critically identified possible bias during the recruitment process, because of being a veteran charity support worker; as participants were accessed via stakeholder contacts, and charity contacts within national veteran charities. The study states that precautions and efforts were taken to minimise any effects of this also during the research and analysis process.

Participants were identified as homogenous white English from the "*English Army population*" (Hitch *et al*., 2020,p.5). The author of the study stated the rationale for army veterans only being recruited, was due to more army veterans seeking help and using the services of the military charities, more than any other branch of the armed forces. Based on this information; this participant sample cannot be used as a generalised or transferable population of the British military veteran community or the British Army, given that a considerable number of veterans come from commonwealth countries. Also, it was identified that participants in this sample are only representable of veterans that have served within the non-commissioned military ranks during service.

With the inclusion, pain did not have to be every-day, but regular occurring (every few days or weeks), and pain began in military service, but did not state whether it was caused in training, deployment, accident, or chronic conditions. The exclusion criteria highlighted that, participants could not have any other co-morbid conditions or mental health diagnosis.

It is unclear whether the researchers used open-ended questioning or semi-structured interviews during the data collection process, due to conflicting information mentioned in the study. The analysis process is identified clearly with rigour, and theoretical saturation was achieved within the sixth analysis. To test this study's proposed theory, a seventh interview was conducted. Furthermore, the first researcher has discussed credibility and rigour within the analysis process by including the other researchers to cross check the data collection, transcripts, analysis, themes, and findings. The findings were well presented, detailed, and discussed in relation to the aim of the research. Significant themes from the analysis were found within the grounded theory approach. "*Oscillating emotional responses, Activation of coping strategies, Ambivalent help seeking-patterns and Knowledge is power*"

(Hitch *et al.*, 2020,p.3). Military conditioning was highlighted as a way of coping, managing self but also hindering the ability to access support.

From the outcome of the analysis, the findings discussed the contribution to knowledge by introducing the veterans' relationship with chronic pain theory. The study recommended the need for a combined veteran/ civilian centred approach to care assessment and delivery. It was also suggested that further research will be published from the findings to better understand the veteran-civilian relationship and barriers for army veterans accessing care.

To conclude this section, these very, different grounded theory studies from the US and UK, around veterans and chronic pain have all highlighted identical key themes of concern. Which include, seeking and accessing care and support; further education for healthcare on veterans' pain and identity; coping with daily pain; and the emotional implications. Furthermore, they all highlighted and recommended further research around veteran's experiences of chronic pain.

The next sections will cover the key areas of recommendations by these three studies and also incorporate outcomes from the present literature that was identified in the biopsychosocial pain model in veterans. It is, therefore, important to further explore the issues around the veterans' healthcare systems, and access to health care, to understand the difficulties faced within the healthcare systems and accessing health care.

2.8 Veterans Healthcare Systems and Access to Health Care

The US, UK, Canada, and Australia were the main military allied forces deployed during the conflicts in Iraq and Afghanistan. This section explores the literature around veterans' healthcare in each country separately, to better understand the gaps in knowledge and to identify if there are similarities or differences in these gaps across the four countries. This

section commences with the US. The US has sustained the highest number of life changing injuries, and suicides in wounded veterans than any other country. Furthermore, they have been at the forefront of military recovery, rehabilitation of wounded personnel; and the leading country of military and veterans research for the past 20 years.

2.8.1 USA

In the USA, veterans are treated within the largest US Healthcare provider, with 170 Veterans Affairs (VA) hospitals, and 1000 care centres nationwide. However, in most other countries such as UK, Canada and Australia veterans are treated within the public health systems after medical discharge from the military (Gauntlett-Gilbert and Wilson, 2013).

From the outset of the Iraq and Afghanistan conflicts, neither the Department of Defense or the VA was prepared for the significant number of wounded personnel with polytrauma casualties and the mechanisms of their injuries, which has become a US critical health problem (Gironda *et al.,* 2006 and Clark, 2004). The US is home to over 23.1 million military veterans, which includes the thousands of OIF/ OEF veterans living with a daily battle of significant pain conditions (Galloway *et al.,* 2014).

"The War on Pain" became a key priority for the US Army Surgeon General, after the Defence and Veterans Pain Management Initiative (DVPMI) established in 2003, to review the military continuum of care for wounded military personnel and veterans with life changing injuries. The review commenced from level 1 (battlefield/ combat medic) to level 4 (major military trauma hospital outside of war zone/ home country) (Galloway, Buckenmaier and Gallagher, 2011). In 2008, The Health Policy and Services (HP&S) Proponency Office for Rehabilitation and Reintegration (PR&R) at the Office of The Army Surgeon General (OTSG) began a full care review of all pain management delivery being

used to guide clinical practice, due to the increased concerns. U.S.Army Medical Command (MEDCOM), developed the "Military Pain Care Act" in the House and Senate versions of the National Defence Authorization Act (NDAA) in 2009. The US Secretary of Defence was tasked to develop and implement a comprehensive policy on pain management by the military health care systems (Management Task Force, 2010).

The US Military Pain Management Task Force Report (2010) highlighted key concerns within the VA organisation, that restructured many services from only inpatient care to also primary care facilities, to provide more collaborative approach to healthcare, due to the increasing number of wounded veterans needing support. Over one hundred recommendations were reported within the outcomes from the '163-page comprehensive Task Force Pain Management Strategy Report (2010).

The findings highlighted major concerns of care from point of wounding on the battlefield (Level 1) to the military trauma hospital (Level 4), and the veterans VA healthcare system. These key findings included: the implementation of the Biopsychosocial and Multimodal models of care (Veterans Affairs, 2018); awareness of comorbid conditions; a new review of classifications based on mechanisms of injuries and the causations that was to be included into the military medical models of anaesthetics (Dougherty and Lister, 2011; and The National Defence Authorization Act, 2010); pain as the 5th vital sign- pain assessing and scoring (Buckenmaier *et al.,* 2009; Buckenmaier and Griffith, 2010); healthcare pain education; healthcare transition to other care systems; access to healthcare; acute pain management considerations; VHA Directive 2009-053 chronic pain management considerations; and managing the risks of opioid addiction/ dependence and rational of prescribing opioids.

Highlighted from the findings of Task Force Report (2010), a systematic review was completed of multidisciplinary treatment models highlighted the effectiveness of supporting individual with self-management strategies within the whole biopsychosocial and multimodal approach (Newman, Steed and Mulligan, 2004; Rosenberger *et al.,* 2011; Mattocks *et al.,* 2020). From the outcome of the review, the VA introduced the Stepped care (ESCAPE) modal, which was developed to support the reduction in chronic pain experiences in veterans.

The primary aim of the trial was to measure the effectiveness of the intervention in OIF/OEF veterans, over a 9-month period, and the impact of the model on reducing the severity of daily pain and pain related disabilities with also enhancing quality of life, compared to the use of universal pain models of management (Bair et *al.,* 2015). The 12-week ESCAPE intervention trial targeted veterans living with musculoskeletal pain (due to this being the common pain concern with veterans), which involved 12 weeks of (Step1) self-management strategies (which included topics such as goal setting, relaxation techniques, yoga) and analgesia therapy optimisation. This was followed with another 12-week session, which included the use of CBT (Step 2).

The study findings identified a significant reduction in pain individuals and the importance of team managed based care, with the use of multimodal approaches, that include pharmacologic and non-pharmacologic treatments (Ostelo *et al.,* 2008). Those individuals with co-morbid conditions of depression, found that their mood was significantly improved. Significant outcomes from the study were the patient's perceptions of pain education during the trial, and how participants understanding of pain evolved during the trial (Matthias *et al*., 2012); which highlighted the significance of supporting veterans to self-manage their pain more effectively. However, limitations to the study included that the trial was conducted at

only one of the 170 VA centres, that musculoskeletal pain was the only condition used in the study (see Veterans Experiences of Pain 2.7 for further discussion). The study also highlighted the importance of combining additional multimodal and integrated pain treatments within the stepped care model, to produce long-term improvements in veterans pain experiences.

However, further VA care reviews in 2016 and 2018 highlighted the increasing opioid epidemic within the wounded veterans' community (which is discussed further later in the chapter), and the "find it, fix it" approach was found not meeting the needs, health, or wellbeing of the 9 million US veterans who are treated within the VA each year (Marchand *et al.,* 2020). This led to a radical change and shift around pain management, healthcare culture around veterans, healthcare providers management of pain in veterans, opioid safety within and around the VA Structure (Veterans Affairs, 2018; Gaudet and Kligler, 2019).

A whole health strategy was compiled with some inspiration from Donald Berwick, co-founder for the centre of Medicare and Medicaid services call to refocus the US health strategy (Institute for Health Improvement, 2011; Bockhour *et al.*, 2020; and Weeks 2014). His own experience of using the healthcare system, made him understand some of the concerns that had been highlighted by previous care reviews.

The biggest impact for him was not feeling like a person that mattered. So, the exploration into person centred care, began around what would health look like if the individual was placed at the centre of care, redesigning the way in which all of healthcare values what matters most in life (Naik, Dindo, Van *et al.*, 2018; Gaudet and Kliglier, 2019).Therefore, shifting the use of language used around veterans and health, focusing on being person driven, "*that veterans are not merely passive recipients of treatment"*(Gaudet and Kliglier, 2019. p.S9). Meaning that veterans have to be proactive in taking charge of their own health

and wellbeing, for it to be successful. The programme has been developed around the 170 VA medical centres and the 1,061 outpatient primary care sites.

OPCC&CT defines Whole Health as "*an approach to healthcare that empowers and equips people to take charge of their health and well-being and live their life to the fullest*" (Bokhour *et al.*, 2020, p.3). Its main aim is to look at *'what matters to you'* and *'what is meaningful to you.'* "*The aim of the programme is to provide veterans with the opportunity to develop a personalised health plan based around the individual's values, needs and goals, that also includes family, community and social determinants of health to achieve a future state of wellness*" (Gaudet and Kliglier, 2019, p.S8). To find a new mission and purpose, with learning new tools and skills building, supporting them to make the changes that they wish to make in their lives. The programme uses an integrative health approach of medical, non-medical and complementary (Marchand *et al.,* 2020).

The implementation of the Whole Health system was commenced in January 2018, where one facility in each of the 18 Veterans Integrated Service Networks. These facilities also included centres that provided polytrauma treatment and facilities struggling with opioid prescribing rates. A flagship white paper was written to report on the second-year progress of the 3-year pilot (Bokhour *et al.,* 2020). The executive summary report highlighted that; "it was found that 193% utilisation among veterans with chronic pain, 211% increase among veterans with mental health diagnosis and 272% increase among veterans with chronic conditions"(Bokour *et al.,* 2020, p.6).

Wellbeing of all veterans and serving personnel is the outcome in the 2018-2024 strategic plan (Department of Veterans Affairs, FY 2018-2024), therefore the Whole Health model incorporates the biopsychosocial/ psychoneuroimmunology/multimodal approach and believes in rapid, preventative methods of pain control working in combinations with the

stepped care model. There are main components to the Whole Health Model; 1) Whole Health Pathway. 2) Whole Health Clinical Care and 3) Well-being programmes (Bokhour *et al.,* 2020, p.3).

From outcomes of previous care reviews including the Task Force Report (2010), the Whole Health model addresses the cultural aspects of VA staff. To provide further clinical skills, professional development and understanding around veteran's wellbeing through change management strategies. A change management strategy has been developed in measured outcomes to bring the whole health system to 330,000 VA employees.

The aim is, for this model to also be used with staff, within their personal development to enhance wellbeing and staff appraisals. Furthermore, significant impact from the Whole Health model was seen on VA employees and healthcare, which reported raised morale, lower voluntary turnover, and lower burnout. It was also documented that from the 18th flagships that had higher rating of employee that engaged within the person-centred care, also scored higher on yearly hospital performance scores. However, there has been anecdotal evidence to suggest that many of the VA centres have faced significant challenges implementing the whole health system and complimentary approaches to health (Taylor *et al.*, 2019; and Marchand *et al.,* 2020).

The US has faced significant challenges around the number of OIF/OEF wounded veterans, living with chronic pain and/or life changing injuries. It is clear from this exploration around the US VA healthcare system that the unique complexities and challenges around the veterans' care has taken a full strategic and change management approach, which includes the introduction of the whole health system of care in 2018, to address the outstanding required actions and recommendations that were documented by the governments Task Force Report in 2010. It is premature to discuss the outcomes of the 3-year pilot, and no

further research has been completed at present. However, from the impacts on veterans, the whole health model has shown to significantly reduce opioid use among veterans with chronic pain. The summary also includes improvements to quality of life, finding purpose, and life meaning. The literature will now explore the UK veterans' healthcare system and access to healthcare challenges.

2.8.2 UK

In the UK, military medical care from role 4 (QE Hospital or Selly Oak Hospital) are jointly managed by the Ministry of Defence (MOD) and the NHS, with rehabilitation services post wounding led by the Ministry of Defence (MOD) until medical discharge from the military. Post military discharge, veterans' healthcare is fully managed by the NHS or private healthcare.

There are over 2.4 million veterans in the UK, and with the significant level of polytrauma casualties that the UK and US had sustained in Iraq and Afghanistan. In 2011, the UK and US governments implemented a unique task force that would link the delivery of service care around wounded injured and sick serving personnel, and veterans. Due to significant gaps in UK care provision, and the need for more progressive innovations and rehabilitation, particularly around acquired brain injuries. UK veterans were casevaced and medically treated within the US VA brain injury centres and rehabilitation programmes.

In 2012, the UK Defence Medical Rehabilitation Centre, employed its first pain nurse, to develop the first nurse-led pain service using a bio-psycho-social model, for serving personnel, experiencing neuropathic and persistent pain. '*The aim of the service was to deliver effective pain management within the defence military rehabilitation services. In order to achieve the optimal level of health and fitness to serving personnel, or to those with*

long-term injuries that will transition to civilian life' (Lewis, 2018; p.14). Given that the start of the Afghanistan conflict was in 2001 and Iraq was 2003, means that until late 2012, there was no nurse-led pain service within UK Defence services. Therefore, serving personnel, discharged personnel and veterans that were wounded between 2000 to October 2012 would not have benefitted from this unique service. No research articles or publications were found around this pain model or pain led service.

Every NHS and primary care services through local health-boards is managed separately throughout the UK, which has a postcode lottery effect of access to care and chronic pain services according to Professor Tim Briggs, a leading orthopaedic surgeon who published the Chavasse Report (2014), into veterans' care on the NHS. The report stated that there is a significant disconnection between the Ministry of Defence (MOD) and the NHS and the responsibilities for veteran's care. Veterans are falling into "*no man's land*" within the NHS just when they need the help the most (Briggs, 2014). The report highlighted issues with prosthetic care with amputees, musclo-skeletal injuries being the most apparent with both serving and veterans, with better understanding of veteran's health, the complex needs of veterans and the cultural awareness by all healthcare providers (Carter, 2015; and Briggs, 2014).

With the outcomes of the Chavasse report (2014), charities such as Help for Heroes in 2017, developed and implemented the clinical liaison team to support those on the recovery pathway. Furthermore, funding for those seriously injured veterans with life limiting injuries needing 24/7 bespoke care, was also included under the charity remits and the Armed Forces community covenant.

A UK-wide Strategy for Our Veterans, was commissioned in 2019, under the guidance of the newly established 2019, Office of Veterans Affairs and its outlines was published jointly

by the UK, Scottish and Welsh government in 2018. Its objective is to bridge the significant gaps in veterans accessing support and care services within the UK. Its aim is for every veteran by 2028 to feel valued, cared for and empowered in accordance with Armed Forces Covenant. Within the strategies, six key themes: health and wellbeing has particular focused areas in targeting specialist care treatments such as pain management; education and accreditation around primary care and healthcare caring for veterans; the transfer of medical notes from the MOD to GP's on discharge, aligning IT systems between the MOD and NHS services; improving the signposting of services; and the smooth transition of wounded service personnel that need long term continued health care (Strategy for Our Veterans, 2019).

This framework was brought out due to the significant gaps in the NHS care in England, Wales, and Scotland around those with complex and enduring physical, neurological, and mental health conditions. This new model approach was launched in 2019 in collaboration with the integrated care systems and sustainability and transformation partnerships in England together with the Ministry of Defence (MoD) and other service charities to ensure the implementation of care provision focuses on the needs of the individual and their families (Ministry of Defence, IPC4V, 2019; NHS England, 2019). Its objective is to highlight those who will need life long and long-term care during the defence recovery pathway; for the complex care package to be commenced during the recovery pathway, using a multidisciplinary team and case welfare manager before the main care management is continued under the services of the NHS. Under the commitments of the Armed Forces covenant the MOD will continue to collaborate under the care guidance, to ensure the commitments and quality of care are being met (Armed Forces Covenant, 2014; and Help for Heroes, 2019). The care welfare manager will also be core to the function of this model, to oversee the multidisciplinary and collaborative roles are being met, with the quality of

care. The Help for Heroes Clinical Liaison team will also provide a key role within this collaboration.

In collaboration with the universal personalised care, which has been developed from the personal experiences of veterans and their families with complex care, it uses the biopsychosocial person-centred care, '*seeing people'* and '*what matters to them'* placing them in the centre of their care planning and delivery (Ministry of Defence, 2019; and Coulter *et al.,* 2015). At present this personalised care model is being used within the wider NHS continuing health care partnerships and benefitting 300,000 people. The shared proactive, decision making, and informed choices is crucial to the veterans and their families. Paying personal detail to their skills, strengths, experiences, and incorporating this into the care needs, health, and wellbeing. Which is crucial for quality of daily life, managing daily pain and symptoms (Stacey *et al.,* 2014; NHS England, 2019; Burt *et al.,* 2012).

At present this model is being piloted in England only, there are no further government outcomes on this strategy published during the time of this PhD study. Furthermore, with the significant gap in timeline of this strategy and care model being implemented. It is not clear as to whether all those that have sustained life changing injuries in the past 20 years, will be included or provided with a clinical liaison or case workers, to make sure that they have access to the specialist care needs and support.

June 2017, saw the launch of the first veterans pain management programme in the UK, based at the King Edwards VII's Hospital, London, led by Lt Col Dr Dominic Aldington. Whose personal experiences of serving in the Royal Army Medical Corps, and a subject matter in pain which included, 'pain relief from point of injury to medical discharge.' His

professional and specialist expertise within acute and chronic pain, has led to over 50 research publications and articles.

This programme was developed because of the little published research on the treatment of veterans living with chronic pain, and very few clinical services within the UK NHS, offer integrated treatment for veterans with or without post-traumatic stress disorder. Therefore, the programme has found that UK veterans experience difficulty accessing treatment and support, with the dangers of being passed from one service to another and signposted from one charity to another (van der Merwe *et al.,* 2020). According to the King Edwards website (accessed October 2020) the service is led by a team of experienced pain management specialists and the course is delivered over 10 days: five residential days, with five single days over a 6-month period. The course uses mindfulness-based CBT for pain and compassion focused therapy, looking at the outcomes of pain, mood, function, confidence, and changes in medication use. 164 veterans were in the first 19 programmes (ibid, 2020; p.1). The aim also of this programme is to also gain more insight into veterans and chronic pain; and the management and treatment of chronic and complex pain in veterans (Morgan and Aldington, 2020). It is difficult to discuss this new programme, as there has been no further information released of research papers published on the outcomes of this pain service.

A veterans and chronic pain article released by the British Pain Society (Gauntlett-Gilbert and Wilson, 2013), discusses the impact of blast injuries, chronic pain concerns and the survival of those needing long term care. It highlights the need for the development of pain management protocols for patients with polytraumatic combat injuries (Gauntlett-Gilbert and Wilson, 2013). Further, exploration in the paper looks at ‘polytrauma clinical triad’ of chronic pain, PTSD, and brain injuries, however the research stated is US based and does

not highlight UK studies. Studies on this area was highlighted by the authors as a necessity for further research implications. PTSD was discussed as a comorbid condition with chronic pain, but the research around veterans was US based and provided with UK civilian studies in this area.

Recommendations from the paper for service planning and treatment of care around UK serving military and veterans suggest further research around emotional comorbidity, PTSD, and addiction. It highlights that the NHS will face challenges with supporting veterans' long term, with further concerns over the lack of experience of healthcare staff understanding the cultural knowledge of the veteran population. It is unclear whether better service design would include civilian-veteran multidisciplinary, or civilian adaption with the support of military charities, or a veteran only provision. Further research, and data from military charities and NHS/ Primary care is needed to better understand for the development of future veteran pain support.

The paper highlighted that data around veterans' health and wellbeing, chronic conditions, comorbid conditions, or disability are not accessible, only through disability compensation, provided by the war pensions, but does not provide information around their injuries, disabilities, or levels of disabilities. It is therefore difficult to know how many veterans there are in the UK, who are experiencing difficulties accessing healthcare, long term healthcare and support with chronic pain.

This exploration around UK veterans care and access to care, highlighted how challenging the gaps are within the NHS and Ministry of Defence (MOD). Again, it is clear that the UK was not prepared for the significant amount of multiple and complex injuries sustained in the Iraq and Afghanistan conflicts. The research shows a clear time delay around implementations of care and care strategies within the MOD, UK Government and NHS,

that would have benefitted the veterans most severely wounded in Iraq and Afghanistan, but the phrase "*too little, too late*" seems appropriate, with regards to trying to manage chronic pain and complex care.

There is such a clear divide between the MOD and NHS systems, which have created a post code lottery and a "*no man's land*" (Briggs, 2014), where many veterans are slipping through the cracks of the healthcare system and support (Help for Heroes, 2019). Under the NHS and UK government, wounded veterans were given priority access to NHS medical treatment, a new UK veteran trauma programme, and further access to primary care services. However, the Community Covenant 2018 report, highlights significant inconsistencies within their findings. NHS treatment has fragmented access to treatment around pain services, prosthetics and rehabilitation, GP support, and mental health across the UK. Poor clarity between the UK government, and across the NHS services was highlighted (Defence Committee, Fourteenth Report of session: 2017-2019). Furthermore, in response to the concerns around UK veterans care, the UK Government in October 2019, launched the Office of Veterans Affairs to purely concentrate on topics such as access to healthcare, veterans care, welfare, support, guidance, regulation, and research (Office of Veterans Affairs, 2021).

2.8.3. Canada

Little information was found around Canada's non-profit health system, where veterans are treated and cared for within the civilian provincial and territorial healthcare systems. Therefore, it was difficult to explore further around the Canadian healthcare system. However, through the conflicts of Iraq and Afghanistan, Canada has seen a substantial number of veterans with life changing injuries, that are needing complex care (CIMVHR, 2020). Due to this, Canada has recently increased its interest in research around chronic

pain. Recommendations around key veterans' care research, healthcare, pain programmes and research outcomes have been included.

There are more than 639,900 veterans within the Canadian population, with more than 40% living with chronic pain (VanDenKerkhof *et al.,* 2014). Out of the Shadows: Chronic pain in Canadian armed forces veteran's forum in 2019, highlighted the concerns around the under appreciation of the impact of pain, with serving personnel and veterans experiencing fear and stigmatisation (Richards, *et al.,* 2016). This subject of pain remains a censored and under researched topic within the Canadian veteran community (Thompson *et al.,* 2020). The forum identified the further future need for research around the lived experiences, pain approaches and evidenced based care. Plans for the need for new national centre of excellence were discussed (Veterans Affairs Canada, 2019).

In 2010, a survey was completed with a sample 3154 veterans on the transition to civilian life within 1998-2007 (VanDenKerkhof *et al.,* 2015). This survey was a collaboration between the Department of National Defence and Veterans Affairs Canada. Data collection was taken via telephone survey. Within a systematic literature review that was completed for this survey; 12 studies were cited around pain, 11 studies were completed in the US and 1 was completed in Finland (Vandenkerkhof *et al.,* 2014). This quantitative survey was the first research to be completed around Canadian veterans' experiences. Due to this the survey was mindful that US and Canadian veterans' characteristics may differ because of variation is service-related roles in areas such as Iraq and Afghanistan with US troops leading operation in these two conflicts. It was also reminded that US wounded transitions to care are different to Canada, where veterans are treated and cared for within the civilian healthcare system.

According to recent Canadian research quality of life was a significant factor in the pain and coping with pain experiences in veterans' daily lives after transition (Thompson, Hopman, Sweet *et al.*, 2013), thus in turn was magnifying their emotions and thoughts of suicide (Thompson, Zamorski, Sweet *et al.*, 2014). The survey also found that chronic physical conditions in Canadian veterans were also double the prevalence, then in the equivalent general population. Conditions such as arthritis, musculoskeletal and gastrointestinal, were also related to the pain that they were experiencing. Furthermore, the survey also highlighted the socioeconomic factors and co-occurrence of mental health conditions that were independently and dependently associated with the physical pain concerns. 91% of veterans with mental health also had a chronic physical health condition; 62% had chronic pain (Otis, Keane, and Kerns, 2003; Scott *et al.*, 2009).

Limitation of this study states that it is highly likely that any of the veterans in this study period served in Iraq or Afghanistan. Therefore, it does not include those who had been wounded in conflict or experienced life changing injuries. However, this study provided key relevance around treating and caring for the whole person and the biopsychosocial model for better understanding of Canadian veterans' care and their daily life qualities.

This new veteran-first approach has been evidence-base led, with the biopsychosocial model and the US VA's stepped care approach with the whole health system, which incorporates an interdisciplinary approach led by the individual needs of each veteran. In 2020, a Pain management study was undertaken to investigate the effectiveness of a 4-week interdisciplinary pain management program based on the biopsychosocial model of assessment, prevention, and treatment of chronic pain; that combined veterans and civilian participants. The aim was to explore pain experiences and treatment outcomes; to illustrate the effectiveness of the pain program (Jomy and Hapidou, 2020). Sample participants

included 68 veterans and 68 nonveterans. Psychometric package was completed at program admission and discharge to measure pain traumatisation, catastrophising, stages of changes, programme satisfaction, and acceptance of pain. Measures that were included in this study; were the pain intensity scale; centre for epidemiological studies depressed mood scale; Minnesota multiphasic personality inventory 2; pain program satisfaction questionnaire; self-evaluation scale; and patient evaluation scale (Ibid; 2020, p.3; Jensen, *et al.*, 1996; and Lewinsohn *et al.*, 1997).

Veterans' population in particular had the most significant improvements from this pain program, which impacted on depressive symptoms, pain-related domains and disability, sensitivity to pain traumatisation, pain acceptance, stages of changes and a number of coping domains (Asmundson and Katz, 2009). Furthermore, veterans also experienced significantly greater outcomes in anxiety, pain catastrophising, kinesiophobia, task persistence, recent bothersome symptoms, pre contemplation and action stages of pain. Veterans reported to have lower levels of depression, more social connection, and interactivity with family and friends.

The study also includes further improvement outcomes on the four main pain stages, which is used in the study for adopting self-management approaches and coping strategies. However, many veterans had possibly experienced their pain for longer periods of time, with also managing co-morbidities such as PTSD or brain injuries, therefore have developed their own resilience strategies around mindset. This is a small study size and would benefit with potentially a far larger sample size, with the added personal lived experiences of veterans included, to provide a full rounded rich in-depth data collection. A larger scale study with quantitative and qualitative elements "*Learning to manage pain: The patient's*

perspective" was completed around the same pain program (Hapidou and Horst, 2016) but it does not state whether any veterans were also included within the sample of participants.

Canada has significantly increased its veterans pain research capacity and in May 2020, the National Centre of Excellence was launched to focus on chronic pain research in veterans. It will include research topics such as pain management, the challenges around veterans' pain experiences, barriers to care, the discharge process from active service, Veterans Affairs Canada, and the interlinking between civilian and VA agencies/ services. Canada has taken direction from the US VA biopsychosocial pain models of care, where veterans are at the centre of all its research and operations to ensure that veterans own experiences are at the focus of all its research endeavours. Furthermore, in 2020, Canada's veterans research centre of excellence for chronic pain, highlighted the need for more personally enriched data from veterans' experiences to be incorporated in their research, that are not captured within quantitative studies.

2.8.4 Australia

Exploration around Australia's veterans' healthcare system found that Australian veterans are medically treated in the same way as UK and Canada, whereby after military discharge, they are transferred to the care of the civilian healthcare agencies and primary care (DVA, 2017a). In 2018 the DVA estimated that approximately 641,000 veterans were living in Australia, but it is unknown at present how many veterans were wounded in Iraq and Afghanistan, that sustained life changing injuries. The DVA also highlighted that, Australian veterans have a number of specific remits that they have to meet to get healthcare and support. Other access was acknowledged through health insurances, disability allowances, private and injury in service commendations. It is highly possible that veterans living in poverty or low-income roles, may not necessary be accessing healthcare due to

lack of healthcare insurances and unable to meet the criteria of the Departments of Veterans Affairs.

Significant amount of Australian research is around the experiences of Vietnam, Korea, World War II and Gulf war veterans, which explore neurological and chemical exposure conditions, service-related cancers, infections such as malaria, mental health and PTSD, and chronic fatigue (Wilson *et al.,* 2005c; Sim *et al.,* 2015; Waller *et al.,* 2014; Ikin *et al.,* 2007; O'Toole *et al.,* 2010; Kelsall *et al.,* 2014). Chronic pain research is relatively new and therefore there is little literature found around pain.

Several recent government reviews have highlighted the need for significant improvements within veterans' support services and around health and wellbeing (Department of Defence, 2017). Few papers cover Australian veterans of Iraq and Afghanistan conflicts, those that do highlight mental health in particular PTSD, drug, and alcohol addictions (McFarlene, *et al.,* 2010). In response to this, a profile of Australia veterans was completed by the Australian Department of Veterans Affairs, and the Australian Institute of Health and Welfare (2018) to establish a four-year strategic partnership, building a comprehensive understanding of the health and wellbeing of the veteran community. The veteran-centred model, which includes seven domains was used to better understand the impact of influences on veteran's health and welfare. The domains include housing, justice and safety, social support, health, income and finance, employment, and education and skills (Hooff *et al.,* 2014).

The aim of the first paper that was found to explore chronic within the veteran population 'was to examine the efficacy of psychological or multimodal interventions, including psychological components for adults with chronic pain'(O'Donnell *et al.,* 2014, p.4). Literature reviews within this summary looked at interventions around the effectiveness of

Cognitive Behavioural Therapy (CBT), multidisciplinary pain management programs (MPMPs), mindfulness-based therapies, and respondent behavioural therapies such as muscle relaxation, bioneurofeedback (RBT) and operant behavioural therapies (OBT). According to the summary, these interventions had been selected as the most relevant to the needs of the Australian veteran population. This assessment looked at four domain outcomes: emotional functioning, physical functioning, pain intensity and overall improvement rated by patient (Ibid, 2014, p.4). CBT and mindfulness interventions are already being used within the general Australian populations biopsychosocial model. Furthermore, more research was needed around RBT, which had some evidence to suggest that it could also be used as a treatment option. OBT was reviewed as needing far more evidence-based research.

"*Teaming up against chronic pain Guide* " was developed by the Veterans Medicines Advice and Therapeutic Education Services (2017), with the support of the Australian Department of Veterans Affairs and Veterans' Mates, which highlights the management of chronic pain best practice (Fillingham, 2017; and Moseley and Butler, 2015; Gilbert and Roughend, 2006). The guide supports healthcare practitioners to support veterans in understanding their pain, through educational sessions; with physical, psychological, and therapeutic interventions (Butler 2013; and Wijma, *et al.*, 2018). In addition, the strategy uses a biopsychosocial approach with an integrative care model, which incorporates the US biopsychosocial models of care (Oster *et al.,* 2017). It is therefore difficult, to discuss Australian healthcare or pain research further at this time, because there is so little literature around veterans' care and chronic pain experiences.

To conclude, it was important to explore the veterans' healthcare systems and access to healthcare in the US, UK, Canada, and Australia, as these were key topics that were

highlighted by the Biopsychosocial pain model in veterans (2.5.3), and within Veterans Experiences of Pain (2.7). Furthermore, literature around veterans' barriers to healthcare has been predominantly around accessing mental health services (Williamson, Greenberg, Stevelink, 2019). Therefore, exploring the care reviews and further research around veterans' care provided better understanding around the complex structures of the healthcare organisations such as the VA (US) and the NHS (UK); and why these organisations are struggling to provide seamless healthcare provision to the veterans' community.

A recent qualitative study around barriers to the US national multimodal pain model provisions, highlighted further difficulties in managing multiple governmental strategies, lack of training for healthcare and lack of support in implementation. It highlighted the challenges faced on the organisational and patient barriers to care (Leonard, Ayele, Ladebue, *et al.*, 2020). The outcomes and findings in particular are around the US and UK healthcare systems, and access to healthcare. These have highlighted the same significant findings from the care reviews and literature around, strategic challenges of implementation of new models of care, training healthcare staff, lack of healthcare understanding, intermittent access to care, lack of veterans' pain research, and research outcomes around the pain models of care and management.

2.9 Healthcare Awareness and Understanding of Veterans Pain

Healthcare awareness, understanding of veterans' pain was a consistent theme that was found within the literature findings from the previous literature explorations around biopsychosocial model of pain in veterans, veterans experiences of pain, healthcare systems and access to healthcare. Therefore, literature is explored around this key topic to further

understand the significance this may have on veterans' experiences of healthcare professionals and their understanding of pain.

Military veterans in the UK are cared for by civilian nurses, whilst also caring for the remainder of the UK population. Nursing military veterans is not a taught curriculum or learnt through continued professional development within the NHS; but one that is learnt from clinical experience of nursing the military and veteran population. According to Carter (2015/2018) there are similarities between the NHS and VA healthcare systems, in particular around their integrated care models being used across a varied of healthcare settings (Engward and Fleuty, 2019). The complexity that is faced within the UK NHS and veterans care is that with every war, the needs of veterans vary in degrees between mental health and physical injuries. Seventy-five years ago, the UK would have been nursing the complex needs of World War I and II. However, today, nurses are faced with more life changing and complex care needs for veterans of the Iraq and Afghanistan wars, that are experiencing these life changing injuries, chronic pain, and comorbid conditions.

An integrative review was completed in the UK, to explore how nursing programmes prepare nurses for caring for military veterans within a civilian hospital (Cooper, Andrew and Fossey, 2016). The search found that all the literature was from the US, with the papers based around nursing and healthcare simulation, curriculum development, innovative online delivery, strategy outcomes to inform nursing initiatives, and categorised as continuing education. Many of the papers were linked to an initiative called 'joining forces' (Harmer and Huffman, 2012; Beckford and Ellis, 2013; Jones and Breen, 2015; Morrison-Beedy *et al.*, 2015), and also the Veterans Affairs (VA) Nursing Academy which is now linked to a number of US educational institutes (Harper *et al.*, 2015). Some of these research papers lacked detail around the working methods taken and some were very vague around sample,

recruitment, and how many of the VA centres took part in the study. However, as a primary review to explore around this topic, it was found that online courses and simulation were the most effective ways for educating nurses and student nurses.

It was found that there is a significant need for educational training to understand the barriers to care and specific needs of veterans within student education and placement, with nurse's professional development and work training/ induction, and also within specialist nurse practitioner roles (Maiocco, Vance and Dichiacchio, 2020). US educational institutions have acknowledged the need for better care understanding, and further studies around the evaluation of these courses or modules, to provide best practice and clinical outcomes (Beckford and Ellis, 2013; Cooper, Andrew and Fossey, 2016).

Feedback from US student nurses that have completed placements within the VA and community setting have stated that receiving training modules around the awareness of the military culture would have been extremely beneficial. Particularly, in understanding the importance of building trusting relationships, and how to communicate with veterans and their families. Also, with being aware of the physical and mental health implications that each conflict has on veterans that served in those conflicts. Other more specific topics such as issues specific to veterans and the effects of grief and loss was also highlighted by nurses as important to be aware of (Linn *et al.,* 2015). These findings were also again echoed by veterans' families that highlighted the importance of both practitioners and student healthcare receiving training in military culture, veterans specific physical and mental health issues, and supporting / engaging with veterans and their families (Butler, Linn, Meeker *et al.,* 2015).

Questions around US healthcare training and education was originally raised as a recommendation for further implementation within raising the standards of care for veterans

(Koblinsky, Schroeder and Leslie, 2017; Vest *et al.,* 2018). The US Task Force Report (2010) found that healthcare education and understanding around pain was varied and inconsistent over the 170 VA hospitals and 1000 community centres. This raising the awareness that further education and training were particularly needed around the biopsychosocial approach, and multimodal management of analgesia to supporting the individual and managing complex pain (Edmond *et al.,* 2018; and Dorflinger *et al.,* 2014). Under the VHA Pain Program, it was recommended that the Military Advanced Regional Anesthesia and Analgesia Handbook (2004), clinical practice guideline from the battlefield to the VA centres, be included within the overall of battlefield pain education for VA healthcare (Buckenmaier and Bleckner, 2008). The book containing 32 chapters, outlines the clinical management of complex injuries and the care of wounded. Its aim was to move away from the traditional aetiologies of intervention centred and medication centred pain methods. Furthermore, more education around integrative/ alternative pain treatments to be implemented to healthcare providers (Department of Veterans Affairs, 2017).

Furthermore, transforming pain as the 5th vital sign, pain assessment and scoring were highlighted as a key concern for review around the management of chronic pain in veterans, with variations reported around nurses understanding of pain scoring and underestimating pain in wounded veterans (Buckenmaier *et al.,* 2009). Numerous published reports have documented high prevalence of the importance of pain as the fifth vital sign being assessed and understood, not just within acute management of pain, but furthermore within chronic pain management (VHA, 2005; Lorenz *et al.,* 2009; and Kirsch *et al.,* 2000). Relation to IASP (2011) and the WHO (2010), their clinical research from military pain specialists from the UK (Looker & Aldington, 2011) and US regarding current conflicts, blast injuries, traumatic amputations, complex healing wounds, have also signified the importance of the fifth vital sign as an integral part of universal pain assessment that needs to be used as a

continuum management tool throughout recovery and thereafter within the pain models of care. Dr Beverly Collet, Chair of the Chronic Pain Policy Coalition (2007) also stated *"If pain were routinely assessed with the same priority as the other vital signs, then a great deal of unnecessary suffering, stress and anxiety could be avoided."*

It is important that nursing staff can identify important patterns of pain within individuals, whether that be verbal or non-verbal methods (Middleton, 2003). Research highlighted inconsistencies in the way that these assessments are made (Harrison, 1991; Colley and Crouch, 2000). The Task Force developed a revised pain scale, called the DoD/VA pain rating scale (DVPRS), integrates the working approaches of the whole health model and stepped care approach. Using a combination of universal pain scales and functioning scales, with further changes made around pain classification, pain severity and daily function, the DVPRS pain scale that includes the impact of pain, stress levels, mood, sleep, and activity (Pain Management Task Force, 2010; and Galloway, Buckenmaier and Gallagher, 2013).

To conclude, the US at present since the recommendations highlighted by the Task Force Report (2010), has implemented the support of a number of educational institutions to develop educational online courses and simulations. These have also been implemented around the Whole Health Model of Care and the Stepped Care approach to pain. However, further research needs to be completed around the outcomes of the implementations, academic audits around course feedback, feedback on the impact it is making in practice for veterans, and their experiences of accessing treatment and healthcare, across the VA organisation and other healthcare providers. It is clear that the UK at present has no formal educational courses or professional development modules for nurses within the NHS and other care providers, around the awareness of understanding veterans and their experiences of pain. Further training or online courses would be beneficial around veterans' experiences

of pain, comorbid conditions such as chronic pain, TBI and PTSD, and also complementary and alternative medicine practices (Department of Veterans Affairs, 2017; and Brewer *et al.*, 2019).

2.10 Opioid Addiction in Wounded Veterans with Chronic Pain

Opioid addiction in wounded veterans with chronic pain was not only another report outcome of the Task Force Report (2010), the Biopsychosocial Pain Model in Veterans, and within the Resilience-Adjustment and Adaption to Chronic Pain. It was therefore important to understand this area further, to better enhance the understanding around the lived experiences of veterans living with chronic pain, and why opioid addiction in wounded veterans is a very life impacting concern.

Due to previous historical aetiologies of managing battlefield injuries (BI) and non-battlefield injuries (NBI), the use of morphine and opioid based analgesia are the most significant mode of pain relief and highly effective (Buckenmaier, 2003). However, its impact long term is highly addictive if pain is not managed within the acute stages, with the added complexity of magnifying hallucinogenic, and psychotic variations in those with PTSD and brain injuries (Halbrook *et al.,* 2010). The past 20 years has seen an increased use of opioid analgesics for treating chronic pain in OIF/OEF veterans. It was found that 32% of veterans were prescribed opioids at least once for the management of their pain, compared to the general population (Tiffany *et al.,* 2019).

Within manging the risks of opioid addiction and dependence, rational prescribing of opioids, the importance of highlighting the risks of opioid addiction, abuse, and overdose in particular with US OIF/OEF wounded veterans with co-morbid conditions or poorly managed pain (Dembek, Chekol and Wu, 2020). The US in 2016, experienced its worst

opioid epidemic in its history, due to this a Comprehensive Addiction and Recovery Act {(CARA) Public Law 114-118, 2016}, was passed to address this critical health concern (Bokhour *et al.,* 2020). In 2018, the VA released further research around the significant opioid addiction in wounded veterans, that is contributing to 260 veterans a day dying from opioid overdoses and suicide, because of their ongoing traumatic pain experiences (Olivia *et al.,* 2020; and Veterans Affairs, 2018). The Department of Veterans Affairs recognized these alarming figures and a recent further review. Which led to a radical need for change around pain management, healthcare culture around veterans, healthcare providers management of pain in veterans, and opioid safety within and around the VA Structure (Veterans Affairs, 2018; and Gaudet and Kligler, 2019). The need for rational opioid prescribing to provide pain relief, was also highlighted, while preventing the risks to potential long-term health outcomes (Kelley *et al.,* 2019).

Recent implementation solutions were trialled by the VA around chronic pain and opioid management. TeleECHO clinic program, which offers pain and addiction instruction, cased based education, and evidence-based recommendations (Dembek, Chekol and Wu, 2020). Which has led to a decrease in the number of prescriptions of opioid analgesics, co-prescribed opioids, and benzodiazepines (Katzman *et al.,* 2019). Furthermore, the VHA launched the opioid safety initiative and naloxone distribution program, designed to decrease opioid prescribing practices associated with adverse outcomes (Dembek, Chekol and Wu, 2020).

Recently, 'The Effects of Prescription Opioid Changes for Veterans' (EPOCH) study, was commenced to monitor, measure the impacts of pain, and assess the effects of the evolving opioid prescribing practice, using a population-based observational study of US VA primary care patients with long term opioid therapy (Krebs *et al.,* 2020).The first report of the

outcomes from this study highlighted the complexities of chronic pain experiences, which highlighted a low satisfaction rate from veterans. Many veterans expressed the need for more intensive opioid treatment due to unrelieved pain burdens, before risking a reduction in opioid use. Barriers also included lack of understanding and education given within the VA facilities and lack of availability of alternative treatment for pain was offered (Giannitrapani *et al.,* 2018). As this is also a longitudinal study, with further analyses and reports including annual surveys are planned .

What is particularly missing within the US literature around opioid abuse is statistical information on how many veterans outside of the VA are being prescribed opioids. Meaning that opioids outside of the VA are not accounted for in the studies (Hadlandsmyth *et al.,* 2018; Dembeck, Chekol and Wu, 2020; Kelley *et al.,* 2019). Furthermore, there is a significant gap in literature regarding veterans that are accessing and engaging with also street opioids and drug use; that is also contributing to the increasing numbers of veterans experiencing drug overdoses from heroin that contains fentanyl (Allen, 2018). With many veterans in the US not engaging with the VA or other healthcare due to health insurances. There is the significant risk that they are turning to other means of managing pain, that also includes the use of illegal drug use (Bannerje *et al.,* 2016; Bannerjee *et al.,* 2019; Outcalt *et al.,* 2015).

Sharp, Busuttil and Murphy (2019) explore the literature around UK veterans research, within the mental health approach, combining physical comorbid conditions. Little is known around UK veterans' experiences of chronic pain and opioid abuse/addiction, as studies within the UK are predominantly mental health dominant, with alcohol prevalence (Goodwin *et al.,* 2017). A recent study by Sharp, Busuttil and Murphy (2019) examines the physical health conditions and associations of pain, obesity, and function of UK veterans

diagnosed with PTSD and other mental health conditions. Within the study participants completed a questionnaire, questions included those around prescribed and non-prescribed drug use. From 403 participants that were engaged with a UK veteran mental health charity, chronic pain scored (41.2%, *n*=166), 10% reported illegal drug use (*n*=44), and a considerable number of participants highlighted elevated levels of alcohol which scored (41.2%, *n*=166). This information particularly also identifies the use of alcohol as a preferred addiction with UK Veterans for managing pain, instead of prescribed or non-prescribed drug abuse. The outcome of the study discusses the importance of comorbid conditions within mental health and the interweaving of mental and physical health impact, which includes chronic pain.

However, in September 2020 a recent new online Pain Resilience Programme (PRP) was launched and funded by 'Supporting Wounded Veterans', managed by Dr Dominic Aldington (Pain Consultant) in connection with the new Veterans Pain Programme (SWP, 2020). This innovative and veterans-led service also has a group component. The programme includes understanding pain, effects of medication on the brain, strategies to manage pain, and also includes a pain medication review and the introduction to weaning off high levels of pain medications, with the support of a professional team. At this present time, the study is relatively new, and no further literature was found around the outcomes of the first participatory groups.

To conclude; what is clearly highlighted, that within the US Opioid use is a significant concern, with much literature exploring best opportunities to decrease those numbers of veterans abusing the medications, street-drugs and to prevent overdosing. Whereas the UK, has very, little research around veterans with chronic pain and opioid abuse/ addiction. However, it was found that UK veterans are more likely to use alcohol as the preferred choice

to manage their pain, through coping forms of avoidance. Further research needs to be completed within understanding physical conditions within mental health aspects of veterans, and through the experiences of chronic pain and coping with comorbid conditions.

2.11 Comorbid Chronic Pain, Traumatic Brain Injuries and/or PTSD

The US has by far seen the most significant rise in long-term concerns with comorbid chronic pain and traumatic brain injuries in both the serving personnel and veteran communities. Which was also highlighted as a key clinical and national concern in the US Military- Pain Management Task Force Report (2010), and also identified in the literature of the Biopsychosocial Pain Model in Veterans (Baria, 2019).Veterans wounded in conflict with Battlefield Injuries (BI) and Non-Battlefield Injuries (NBI), are also presenting with increasing prevalence of comorbid conditions such as PTSD, with more than 60% of veterans sustaining traumatic brain injuries (Hoot *et al.,* 2015; Bair *et al.,* 2015 and Lew *et al.,* 2009). Known as a triad of complex pain was identified around the combination of physical and mental injuries (Higgins *et al.,* 2014).

In the US there are now 16 brain injury centres on operating serving US military bases and 5 centres within the VA hospitals. In 2019, the Defense and Veterans Brain Injury Centre (DVBIC) highlighted that 414,000 US service members world-wide between the years of 2000 and 2019 have been diagnosed with at least one level of brain injury, from mild to severe. 185,000 veterans that are registered with the VA were also diagnosed with at least one brain injury but were diagnosed with further chronic debilitating conditions such as chronic pain and/or PTSD (MacGregor *et al.,* 2020).

Earlier research around chronic pain and traumatic brain injuries suggested that almost half of OIF/OEF veterans with TBI injuries were experiencing severe pain (Bosco, Murphy, and

Clark, 2013; Cifu *et al.,* 2013). Also, there had been a paucity of research found around the rehabilitation and chronic pain support for veterans with severe brain injuries (Bosco *et al.*, 2013; and Andelic *et al.,* 2014). This information was also supported by the VA long term care team and research into the unmet rehabilitation needs 5 years post traumatic brain injury (Mahoney *et al.,* 2019; and Silva *et al.*, 2021).

There is a misconception that rehabilitation services are not needed after the initial care recovery period at the VA, but this is the crucial time to prevent painful spasms, spasticity, contractions within the body from further neurological symptoms including seizures. Those with severe injuries need support with muscle control to prevent internal and external paralysis, locked in syndromes, touch sensitisation and loss of mobility/ movement in the body and head. All of which cause significant pain when not managed full time. Neuropsychologist and neuro-physiotherapist teams are concerned that the long-term needs of these individuals are not being fulfilled due to funding, this includes their long-term daily pain management.

Furthermore, wounded personnel or veterans with co morbid conditions are also found to need a far more daily structured routine with the integration of complex integrated, multimodal pain treatment and management within the stepped care modal (Lew *et al.,* 2009; Adams *et al.,* 2019; Armstrong, Champagne, and Mortimer, 2018). A post-deployment multisystem disorder was identified to treat and manage these increased triads of conditions (Ibid; 2009). Within the new implementation of the biopsychosocial multimodal approaches by the VA, recommendations were made around the integration of the stepped mental healthcare model to support veterans with comorbid conditions. Care aspects within this model also address the psychosocial realms and daily lifestyle and wellbeing (Clark *et al.*, 2009; and Lew et al, 2009).

However, the Canadian and Australian comorbid research highlights concern around mental health triggers such as addictions and PTSD but does not include chronic pain or traumatic brain injuries. The most recent research article completed by Morgan and Aldington (2020) explored research literature around the correlation of chronic pain and post-traumatic stress disorder (PTSD) with the UK military veteran population, to establish whether a co-morbid form of treatment for pain is necessary for all veterans. There are a number of shared attributes within these two areas, in particular if the injuries, also included brain or spinal injuries, which were caused by blasts or explosions. There are currently very few UK data collected, or research around co-morbid PTSD and chronic pain conditions within the veteran population, or integrated services within the UK to understand and manage the two specialist conditions effectively at the same time, in the veteran's population (Ibid, 2019; Sharp, Busuttil and Murphy, 2019). However, the US research in section above clearly states that there is a strong correlation of comorbid conditions of traumatic brain injuries and chronic pain in veterans wounded in Iraq and Afghanistan conflicts (Outcalt *et al.,* 2014; Seal *et al.,* 2017; Blakey *et al.,* 2018; and Agimi et al, 2021).

Recent new research within brain function, found that corticol thickness in specific areas of the brain in post-911 veterans and service members with mild traumatic injuries, was increased because of severity of pain, impacting on daily quality of life, pain interference (Newsome *et al.,* 2018). The chronic effects of neurotrauma are also being researched in a five-year research program commenced in October 2019, by the world's largest cohort of service members and veterans to explore the long-term impacts of military relevant brain injuries (Department of Veterans Affairs, 2020).

The realities around the long-term impacts of these comorbid conditions are significantly rising. Numbers of UK and US veterans suffering with chronic pain, TBI and/or PTSD is

also increasing. Evidence has shown that quick management of these conditions will prevent, long-term life changing suffering, with the high risks of secondary neurological and young dementias. Further research needs to be completed in the UK around chronic pain, TBI and/ or PTSD to better understand the experiences of veterans living with chronic pain.

2.12 Conclusion

The purpose of this literature review chapter was to inform, what is already known within this area of research, offer a critical appraisal of previous research and what information from the literature needs to be shared, to identify these gaps in knowledge and research.

Clearly, there are challenges globally in implementing new models of care; training healthcare staff, magnified by a) lack of healthcare understanding around caring for veterans and b) intermittent access to care and care pathways. More specifically, veterans of the Iraq and Afghanistan conflicts pose extra challenges for care and management because of the prevalent identified co-morbidities.

Veterans are a hard-to-reach group and consequently there is a paucity of research on their experiences. Recommendations from existing literature calls for a need for further research on the chronic pain experiences of veterans (2.5.3) particularly with an emphasis on the need to obtain narratives of veterans to explore their experiences. Currently, most veterans research centres on mental health and Musculo-skeletal injuries from service and military training. Furthermore, much of this is conducted in the United States and there is limited research exploring UK perspectives.

To date, most research about veterans' health is derived from studies using quantitative research approaches, and systematic reviews. Consequently, there are significant gaps in qualitative research directly focused on veterans with battlefield injuries living with chronic

pain. More specifically, there is a lack of qualitative research on veteran's experiences of living and coping with daily chronic pain; how veterans react and manage pain; and the impacts of pain experiences through recovery. Ultimately, the critical review has informed the decision-making process and overall study design of the research presented in this study. Which aims to address current gaps in literature, and to gain more personally enriched data from veterans' experiences. The next chapter provides a discussion of methodology and the design used in this research to fill the gap in literature.

Chapter Three: Methodology

3.0 Chapter Three: Methodology

3.1 Introduction

This chapter will explore the reasons for selecting a qualitative research approach and choosing Interpretative Phenomenological Analysis (IPA) for this research. The chapter comprises an overview of the current research methods being used in research with veterans. With an exploration of quantitative and qualitative approaches to provide a context for the methodological underpinnings of this research. The chapter commences with a brief background about the origin of this research study, how it evolved, and the methodological decisions made; before exploring theoretical approaches in the context of the research question.

3.2 Why the Lived Experience?

The original proposal for this PhD was an intervention study to determine the efficacy of using therapeutic harp music with chronic pain management with 21st century combat veterans. The first part of this multi-phase study involved qualitative research with veterans to explore their experiences of using music and other approaches to manage chronic pain. On listening to some of the initial interviews and how participants experiences linked to existing literature, it became clear that there was a significant gap in the lived experience. A realisation of these powerful experiences resulting in questioning the appropriateness of using their stories merely to gather information for a larger intervention study. A critical moment for the direction of the PhD, also arose due to two infuences:1) the difficulty of recruiting veterans due to the stigma around pain in the veteran community; and 2) having a personal experience of pain and feeling a duty to make sure their words, their lived experiences mattered.

As part of my research training a session, I attended a masterclass on phenomenological research. During this session Professor Frances Rapport described her experiences of transcribing interviews from the survivors of the Holocaust and how meaningful the research was. What the research meant to the survivors to feel heard, to feel worthy and to feel that their raw experiences, and their families suffering would make a difference in educating the world on the reality of that existence of life and death. For me, that was an inspirational moment during my PhD when it became clear that the work would change direction into a qualitative project. The study was therefore redesigned as a qualitative study to explore in greater depth to explore veterans' experiences of living with chronic pain. As part of redesigning the study a number of theoretical underpinnings were explored that could best answer the research aim.

3.3 Theoretical Underpinnings

Each research paradigm has a different philosophy of the world, and not all would capture the research question or the understanding of the lived experiences of veterans injured in conflict, in the same way (Rossman and Rollis, 2011). The philosophical roots of positivism are noted here, but the philosophical foundations within an interpretive paradigm will be explored in detail (Collis and Hussey, 2003).

3.4 Positivism and Quantitative Methodology

The positivistic approach seeks to find factual causes of social and environmental occurrences, with the ontological belief that human behaviour should be conducted in the same way as scientific research. There is little regard to the emotional and human sensory experiences of the individuals in the research, the experience is objective, and the relationship with the researchers are detached, meaning individuals are treated as subjects

(Scotland, 2012). This paradigm is very much connected within quantitative methodology (Collins and Hussey, 2003).

According to Babbie (2010) quantitative research is often conducted in an unnatural, artificial environment such as a laboratory setting so that a level of control can be applied, taking it away from the natural real-world results. If this framework was used within this study, the aim of the lived experiences would be to collect data from facts to test a hypothesis, incorporating repeatable, objective, measurements. Within this approach, a variety of designs can be used from surveys, randomised controlled trials (RCT) and statistics (Robson, 2011).

Quantitative research can be used to answer questions such as the number of veterans injured that are living with chronic pain; how many have accessed healthcare; what pain they do have now; what pain medication they take etc. When completing a survey or closed ended questionnaires based around the lived experiences of veterans injured in conflict, this type of research has the possibility of reaching hundreds of veterans UK wide and even world-wide.

3.4.1 Challenges of Using Quantitative Approach in this Context

The positivist approach seeks to find factual causes of social and environmental occurrences, with the ontological belief that human behaviour should be conducted in the same way as scientific research. According to Babbie (2010) quantitative research is often conducted in an unnatural, artificial environment such as a laboratory setting so that a level of control can be applied, taking it away from the natural real-world results. If this framework was used within this study, the aim of the lived experiences would be to collect data to test a hypothesis, incorporating repeatable, objective, measurements and so would not provide a

meaningful understanding of their experiences. In addition, gaining trust of veterans is often difficult in particular when asking then about their injuries and war experiences. Many veterans struggle to speak about their conflict and battlefield experiences to individuals outside of their trusted circle of loved ones and fellow veterans.

3.5 Interpretivism and Qualitative Methodology

According to Grix (2004), the interpretive paradigm is underpinned by an inductive approach which brings in the real-life situations of veterans; that brings sensory rich filled data of emotions, feelings, and honesty. This paradigm cannot be validated in the same way as the positivist paradigm that relies on validity, legitimacy, and trustworthiness of the research. The interpretative paradigm uses real world phenomena and the lived experiences which continues to gain recognition within healthcare contexts, particularly person-centred approaches, patient participation, because it creates understanding around the personal needs to feel valued and supported (Ibid; 2004).

Qualitative research is well positioned within an interpretivist philosophy, based on personal experiences, own beliefs, and the spoken words of individuals. The qualitative emphasis is very much around listening and understanding individual's perspectives (Silverman, 2014). Researchers use open ended interviews, observations and sensory within the qualitative research field to capture real experiences (Robson, 2011). Approaches such as narrative research and case studies were explored, however they did not fully answer the research question around the lived experiences. Grounded theory, ethnography and phenomenology were considered before an IPA was determined as the study approach that will best answer the exploratory aim of this study.

3.5.1 Grounded Theory

According to Creswell (2009), grounded theory is a qualitative strategy of inquiry in which the researcher obtains a general, abstract theory grounded in the collection of data, developed from the views and issues that are important to the participants in the study. The core elements in grounded theory consist of concurrent data analysis, collection, a constant comparison, that continues through-out the research study. Interviews or observation influence each other to create more content, until those interviews reach a level of content saturation and no further rich data or theories, can be found or collected (Savin-Baden, 2013).

Charmaz (2006) states that grounded theory commonly uses observational fieldwork (participant and focus groups), interviewing participants with open ended questions and the study of texts for data gathering and collection. The discovery of emerging theories patterns in data created by constant comparative analysis and developing theories phase through theoretical sampling (Robson, 2013). Hoddy (2018) states that grounded theory provides qualitative researchers with truly clear, direct guidelines for collecting and analysing data. But according to Charmaz (2009), in order to state that your research is based in grounded theory, each guideline has to be followed sequentially. The use of just one or two guidelines does not make the study "grounded." Grounded theory uses an approach that would create a natural validity through using such a rigorous systematic collection of data collection and analysis, thus in turn would minimize any subjective influences from the researcher (Robson, 2013) .

Grounded theory was developed to explain a social perspective and process. To also produce new theories, for when little is known example the pattern of behaviour for example, of how veterans cope with pain or injury, or a new theory into resilience theories of veterans injured

in conflict. The small number of existing qualitative research on pain and veterans have used this approach to develop theories. (2.7). Hitch *et al.* (2020) also used this approach to develop a theory from the participants narratives around how army veterans cope with pain. Which included using a grounded theory coding, to analyse the transcripts to better understand chronic pain management in veterans and to shape how intervention programmes can support veterans.

Grounded theory was considered for use in this study, however, was rejected primarily as the focus is not about social perspectives or processes, but to explore the personal meaning and experiences of veterans. There were also some more pragmatic issues to consider as some interviews had already been conducted posing challenges to fully embrace a constant comparative approach. A detailed literature review had also been conducted which could impact and influence the outcome. The research questions were developed from the original PhD, and therefore, did not align well as concepts of emerging questions from participants or observations within the duration of this study.

3.5.2 Ethnography

Ethnography is a qualitative research approach exploring social interaction of participants in a natural environment. It provides an in-depth insight into the participants behaviours, views, and actions, along with the sights and sounds they encounter during their every-day lives. Ultimately the researcher gains a better understanding of how participants see the world around them, how they interact, how they behave and how they react to life situations.

Ethnographers have personal interactions with the participants and the culture of the group being observed who may be in day-to-day, face-to-face contact with the people they are studying. The researcher is seen as an observer within the study and maintains a neutral

influence throughout the study. Before this type of research begins, researchers can also interview participants on their own or in groups to learn more about their group, team, or community's needs.

To collect information and data collection for this approach the most common methods include passive observation (shadowing a participant), direct observation (researcher will interact and ask questions whilst observing), diary studies, video recordings, photography, and artefact analysis such as devices that a person uses throughout the day (Hammersley and Atkinson, 2007).

Observations are made anywhere within the natural environment, such as a participant's workplace, their home or while they are out with family and friends. According to Brewer (2019) using observation methods before the research, is also an effective way for researchers to identify any disconnections of when the user tells the researcher one thing but actually interacts in another way. Within the analysis stages of this approach, researchers will look for patterns and themes from the collection of data. The findings are presented in an informative and meaningful way that will allow the use of information to make informed changes (Robson, 2011).

Ethnographic studies can be time consuming, and it requires a long-term commitment by the researcher who intends to interact with people they are studying for an extended period of time. The length of the studies can vary depending on the research that is being conducted. They can range from a couple of hours of observation or be longitudinal in nature that last several months or years (Fetterman, 2020).

According to Soeters *et al.* (2014) using Ethnography as a qualitative approach, to fully understand the veteran's world and the challenges they may face in their everyday lives is

one of the hardest communities to observe. You either have to be part of the veteran's community yourself or an individual that they trust completely to accept into that community. Carreiras and Castro (2012) also stated that for many veterans, the day-to-day observations would be seen as an intrusion on their personal space, thus in turn affecting their health and wellbeing; making it difficult for any researcher to explore their past military experiences and injuries.

The main aim of Ethnography is to explore and develop a rich understanding how people think, behave, and interact within a community, culture, or organisation to develop better understandings of practices and meaningful interactions (Robson, 2013). Ethnographic research with veterans could be well placed to explore the impact of belonging, for example participant observation of the Invictus Games Choir or defining the experiences of pain within the military veteran culture. However, the exploration of the veteran culture and/or community was not the research aim of this study. Ethnography does not capture the meaning of the individual lived experiences but is more focussed on cultural impact.

3.5.3 Phenomenology

According to Smith and Eatough (2006) Phenomenology is the study of experience, how we experience life and how we see the world. It aims to explore individuals' experiences of some personal significance such as a life event (Van Manen, 2016). To fully understand the full, rich, and complex nature of phenomenology, the historical philosophy, and the main philosophers of phenomenology that have also influenced the Interpretative Phenomenological analysis (IPA) method will be explored.

Phenomenology has been the inspiration for all qualitative approaches, in particular within those methods that are exploratory and looking at the real-world experiences. The aim of

Phenomenology also known as, '*the study of phenomena'* is to explore the lived experience, this includes personal thoughts, feelings, and memories of the experience and its meaning to the individual (Matua and Van der Val, 2015). According to Van Manen (1990), Phenomenology "*questions the way we experience the world, to want to know the world in which we live as human beings*" (Van Manen, 1990, p.5). Therefore, contributing to the true understanding, from deeply powerful and personal insights, enriches and highlights meaningful moments from that personal experience (Frankl, 2011; and Van Manen, 2016).

Van Manen (2016) explains that "*A person cannot reflect on lived experience while living through the experience. For example, if one tried to reflect on one's anger while being angry, one finds that the anger has already changed or dissipated. Thus, Phenomenological reflection is not introspective but retrospective*" (Van Manen, 2016, p10). Thus, meaning that at the core of Phenomenology is the personal recollective reflection of the experience itself, that has already passed or been lived through (Smith, 2015). This is particularly important for veteran's personal experiences of being injured in conflict, and their experiences of living with chronic pain. It is important for the researcher if using the phenomenological approach in particular to again be mindful that due to strong pain medications, or blast and brain injuries some of the recollections, or perspectives of the experiences may have altered with time. This re-emphasising that the human mind remembers things in a way that may not be completely accurate, but to that individual can just be as real (Silverman, 2014).

Whilst considering Phenomenology as an approach, the philosophical and historical foundations of phenomenology is diverse and complex, that has developed within different philosophical spheres (Sultan, 2019). To better understand phenomenology, there was a need to look briefly into the philosophy of phenomenology, the founders of the phenomenological

theory, and their contributions which is relevant to the understanding and development of this methodology.

3.5.3.1 History of Phenomenology

Phenomenology has a strong philosophical approach, that studies the lived experiences in order to describe or understand the meaning of those experiences (Sakolowski, 2008). The roots of Phenomenology particularly derived from the Hindu and Buddhist philosophies, of human reality and the structures of consciousness, that are reflected from states of consciousness from within their daily meditative practice. (Zahavi, 2018; and Heidegger, 1981). But the term itself, came from the Greek "*Phainomenon*," which translates to, "*that which appears*" (Sokolowski, 2008). Therefore, Phenomenology resides within two elemental fields; world history and philosophical research, which are: a philosophical disciplinary field of experience within the search of meaning, or as a philosophical movement within world-culture, spirituality, and religious history. (Smith, 2018; and Husserl, 1971).

The earliest documented European philosophical works, that include Phenomenology were developed by Johann Heinrich Lambert (1728-1777), Immanuel Kant (1724-1804), and Johann Gottlieb Fichte (1762-1814). The popularity of Phenomenology grew in particular, after the publication of the book "*Phenomenology of Spirit*" by Georg Wilhelm Friedrich Hagel (1807/ 2019). From the many published variations, to best answer the research question of this study, the researcher explores descriptive and interpretative Phenomenological approaches.

3.5.3.2 Edmund Husserl (1859-1938)

Known as the descriptive Phenomenologist, Husserl's attention within his works, was in particular around the lived experience, and the importance of cognition, through using memory, perception, thought and imagination (Corben, 1999). Husserl's mission was to transform philosophy into a rigorous science, based on describing and understanding, and to view the approach as a method of understanding the lived experience. Husserl defined Phenomenology as a system of combined and correlating "*meaning of the lifeworld human experience as it is lived, perceived, and experienced*" (Hussurl, 1936/1970). Husserl was particularly interested in developing theories, that could be drawn upon within the qualitative approach. He believed in developing the 'phenomenological attitude,' when exploring the lived experience (Smith, Flowers, and Larkin, 2009).

Husserl (1927) recommended using a process called 'bracketing', which involves separating the researcher's own personal experiences of the phenomena, including personal and professional knowledge, ideas, assumptions, and beliefs (Sultan, 2019; Smith, 2013). Preventing researchers own experiences, from influencing the true experience of the individual and free from bias (Van Manen, 2016). Meaning that, through phenomenological reduction, the researcher can focus on understanding and reaching a deeper meaning or core of participants experience, and full transcendental understanding (Santiago *et al.,* 2020; Raskin and Robbins, 2010).

The descriptive phenomenological approach did not come without huge controversy from other phenomenologists, psychologists, and philosophy researchers, in particular around the application of bracketing and reflection. Heidegger in particular, argued that it is impossible to be a purely subjective or an objective researcher within the realms of real-world research and the lived experience (Van Manen, 2016; and Gutland, 2018). Furthermore, this approach seeks

clarity with just one reality of the experience (Giorgi and Gigi, 2008). Therefore, the objective is not to explore individual's experiences, but to seek the general characteristics of a particular phenomenon, through a shared psychological structure of the participants experiences. Whether through new or subconscious meaning, can be uncovered by re-examining and exploring the context of an experience as it appears to consciousness and the individual (Laverty,2003).

3.5.3.3 Martin Heidegger (1889-1976)

Heidegger's work became deeply influential through the international realms of research, within the philosophical concepts of the search for meaning and the lived experience. His philosophical works "*Being and Time*" (1962/1927) became a powerful and influential bench-mark within the phenomenological movement, which led to the interpretative or hermeneutic perspective within phenomenology and within psychotherapy.

The famous end chapters of "*Being and Time"(*1962/1927) particularly focus on Heidegger's interest within the existential focus around "being", the significance of death and the effectiveness of being within life itself. For Heidegger, the search for meaning within the being (*Dasein*); continued around making sense of the conscious, unconscious, and the concealed hidden meanings of the lived experience within us (Heidegger, 1962). From Heidegger's perspective, "*we are mistaken if we believe that we can occasionally choose to move outwards from some inner world*" (Smith, Flowers, and Larkin, 2009).

Heidegger's philosophical spheres and phenomenological stance was also shared by Dr Viktor Frankl (Brencia, 2015). Frankl's work is one of the most influential writings within the field of psychotherapy ("*Mans Search for Meaning,"*1984).Witnessing the daily suffering and deaths of prisoners within the Jewish concentration and death camps of World War II, his work

focuses on the aspects of finding meaning and freedom in the suffering. Which became a strong ontological basis for Frankl's foundation around logotherapy (a founding method of existential analysis and research). Frankl's work around the meaning of suffering was touched upon earlier during the literature review that explored spiritual, moral, and psychological pain (2.6.4). There is a paucity of research around this interpretative phenomenological approach that both Heidegger and Frankl explore around the meaning of the lived experience. Therefore, Heidegger's and Frankl's philosophical approaches are explored further.

Frankl and Heidegger's shared beliefs around understanding of the self, which include the deepening of the spiritual aspects of the being. 'W*e can no longer change a situation and experience the core pre-conscious, conscious, subconscious, spiritual, emotional, physical and psyche realms of the experience itself, we are then able to challenge the change within ourselves. First, we must face the experience as it is and was, before fully experiencing the potential depth of the suffering and meaning within that experience. Therefore, we are all one, within the past, present, and future moments within life, with all sensory experiences, the multi-level of consciousness and the life experiences that made us to whom we are'* (Frankl, 2011, 2004 and 1984). Furthermore, Heidegger went a step further to identify that impulse and spirit, are immeasurable within understanding the personal phenomena. He stated that '*the health of the soul, is different, but not opposed to the salvation of the soul'* (Brencio, 2015). As a whole the shared beliefs resonate strongly to the phenomenon explored in the thesis. Particularly the element of suffering and meaning that relate to the experience of chronic pain.

3.5.3.3.1 The Differences Between Husserlian and Heideggarian Phenomenology

The epistimological and ontological differences within Husserl and Heidegger's philosophical beliefs are formed and developed from their own lived experiences, philosophies, and personal backgrounds.

Husserlian's descriptive phenomenology is concerned with knowledge, capturing an understanding the perception of the phenomena, which in this study would be chronic pain (Reiner, 2012). To conduct this research, Husserl emphasises the importance of bracketing own experiences, perceptions, knowledge, and emotions, particularly during the research process. However, Heidegger's disagreed with Husserl's process of bracketing and stated that within the realities of human life experiences it is impossible for any human being to detach themselves from personal experiences (Heotis, 2020).

Heidegger's interpretative (hermeneutic) phenomenological approach (the science of being and philosophy of interpretation) explores a deeper interest in the embedded meaning of the lived experience, by using the hermeneutic circle and analysis. Heidegger's approach particularly identified the importance of shared knowledge and shared experiences "as we understand something we are involved and as we involved, we understand" (Welsch, 1998). Therefore, the aim of this research would explore " *what does the experience of living with chronic pain mean to wounded veterans*." Interpretative phenomenology does enable the researcher to look at these experiences of veterans within the first person's experience; embracing the whole person approach, their relationship within the physical, social, spiritual, emotional, psychological and world view's perspectives. It considers that there are endless realities to the experience because each personal interpretation is all that we have, and each raw and rich perspective of experience is unique to the individual.

Philosophers Maurice Jean Jaques Merleau-Ponty (1908-1961) and Jean-Paul Satre 1905–1980 are included within the foundations of the IPA approach. Therefore, to best understand the IPA approach, and its philosophical roots it was important to explore their key importance within IPA.

3.5.3.4 Maurice Jean Jaques Merleau-Ponty (1908-1961)

Merleau-Ponty, also shared the phenomenological views of Heidegger and Frankl, but developed a more particular interest around the embodied experiences, within the physical body to find understanding meaning, situational awareness, and unconscious trauma (Gallagher, 2005; Gallagher and Zavati, 2008). A leading philosopher and phenomenologist within embodiment, ontology, perception, and the mind-body-psyche inter-conceptual connection (Churchill and Wertz, 2015).

Merleau-Ponty experienced military service between 1931 and 1933, and during the outbreak of World War Two. Merleau-Ponty served as a Lieutenant within the Infantry regiments before being seriously wounded on the front-line battlefield, and later spent many months recovering from his injuries. He was recognised for his bravery for trying to save other comrades and holding battle position whilst injured himself and received the "*Croix de Guerre*" for bravery (Noble, 2011; and Toadvine, 2019). Experiencing fellow comrades with brain injuries, amputations, and pain, influenced his later pursual of research into the biological-neuro-physical impact of experience; and the understanding of perception significantly ties in with the topic of this study. Understanding the awareness of the impact of trauma experience on the mind and body as a personal experience, is different for each individual. Experiencing empathy for another and mutual identification of self and others experience is intertwined (Finlay, 2005.p 290; Finlay, 2012). Ultimately, we can never completely share the same experience, due to our own unique embodied position in the world (Smith, Flowers, and Larkin, 2009). Therefore,

Merleau-Ponty's experiences of being wounded himself recognised the personal raw experiences are unique to each wounded soldier (Merleau-Ponty, 2012).

Thus, in particular connects with the life changing injuries of wounded veterans and chronic pain experiences in this study. That each experience is personal to the individual, and the body bears burden theories around the divided mind (Merleau-Ponty, 2012). The inter connectedness of our bodies with the experience of life changing injury and pain in particular when the body no longer works as it did and fails (Todres, 2011). We often, object or deny the body has changed or focus attention of the body where the pain exists to find meaning within that suffering. But it is up to us whether the experience over- whelms the inner realms of the self and how we react to it (Merleau-Ponty, 1963). Therefore, the significance of Merleau-Ponty's work for this study is captured by Smith, Flowers, and Larkin -"*The lived experience of being a body-in-the-world can never be entirely captured or absorbed, but equally, must not be ignored or overlooked"* (Smith, Flowers, and Larkin, 2009: p. 19).

3.5.3.5 Jean-Paul Satre (1905–1980)

Satre's position will be discussed briefly within the phenomenological field of existentialism, for its later influence within the IPA approach. Jean-Paul Satre (1956) a philosopher suggested that we as human's approach daily life with a pre-existing engagement with the world. His early influences came from the work of Husserl and Heidegger's. Satre's psychological work in particular, was very profound and controversial, within that period of time. His clever use of relationships, observation and passion for people was formed and developed within many of his talents as a novelist and playwriter, that contributed to his philosophical success (Churchill and Reynolds, 2014).

Within his famous work "*The Look*" (1956.pp 252-302) Satre carefully describes the lived experience, through the experience of looking through a keyhole as "*a pure mode of losing*

myself in the world, of causing myself to be drunk in by things as ink is by a blotter" but his awareness is then changed by the sound of footsteps. He described the experience as "*Moments before my mode of being was governed by unreflective consciousness, now 'I see myself' because somebody sees me. I now experience myself as an object for the other"* (Satre, 1956, p.353; Dolezal, 2012; and Van Manen, 2016). This according to Van Manen (2016), describes Satres descriptive existential approach as "*Phenomenology is, on one hand, description of the lived-through quality of lived experience, and on the other hand, description of meaning of the expressions of lived experience"* (Van Manen, 2016 p 25). Suggesting that we as beings are an ongoing never-ending development of becoming ourselves. Meaning that our engagement with life and the world, is always evolving, within the understanding and meaning of the lived experience, the interpretation is both present and in that moment. According to Charlick *et al.* (2016, p3)"*the story is being developed as its being interpretated by both the participants and the researcher*".

Satre's belief of the lived experiences, and that we as human's approach daily life with a pre-existing engagement with the world, particularly brings a different element to the understanding, of creating a mindful element towards veteran's experiences. The reality that from the moment of wounding to the time of this study, the participants in this study could have possibly changed some of their personal thoughts, perspectives and understanding towards their lived experience, because of their further life experiences and development of knowledge. Therefore, the interviews are capturing the emotions and feelings of the participant in that present moment, based on past experiences. Creating awareness that the emotional impact of the present moment on the self, which can also play a key part in discussing past experiences. This can also be the case for the researcher's perspective at that moment. This particularly highlights the rationale for a 'bracketing' process such as Husserl's, separating one's own personal experiences from the participants experiences. Therefore, being mindful and actively

present in the lived experiences of the participants. However, Heidegger argued that this meaning of experience that could be seen as descriptive, is actually a deeper interpretation of the present moment, honouring past experiences (Heidegger, 1962, p.37).

3.6 Interpretative Phenomenological Analysis (IPA)

IPA is a newer approach within qualitative research that was developed by Jonathan Smith, as a dedicated exploration of personal meaning and lived experience (Smith and Osborn, 2015). Although developed within the field of psychology this method has become particularly popular within healthcare, health psychology and psychotherapy, due to its ability to explore chronic health issues and combine it with related existing or new research studies and clinical practice.

The aim of Interpretative Phenomenological Analysis (IPA) is to explore how individuals make sense of their daily world, which draws on capturing and exploring the personal human lived experience, around the theoretical perspectives of phenomenology (Smith, 2009; Smith and Osborn, 2015). This process of exploration provides us also with a unique approach of individuals experiences, as well as shared participants experiences. Therefore, giving us understanding around how people feel about often difficult or indefinable areas within their lives, for example coping strategies around pain or access to pain treatment.

IPA is very much influenced by the core emphasis of the approach and has three methodological influences of phenomenology, ideology, and hermeneutics. Therefore, it is important to understand where the key phenomenology philosophers that was highlighted in the phenomenology aspect of this chapter are positioned, within the IPA approach and how they shaped the development of IPA. According to Smith, Flowers, and Larkin (2009: p.34), "*Husserl's phenomenology is being described as intrapsychic, Merleau Ponty is more*

centrally concerned with embodiment, and Heidegger and Satre's accounts are more focused upon existential questions- both with practical and worldly, as well as moral and ethical issues. Their collective contributions becoming a multifaceted and holistic phenomenology."

Therefore, within the boundaries of IPA studies, the intention is not to answer a question or hypothesis, but merely to understand the deep soulful and meaningful, lived experiences of the individual (Willig, 2008 and Van Manen, 2016). Smith also states that there is no single definitive method to complete IPA, the founders of IPA offer a seven- step process around data analysis as merely a guideline (Smith, Flowers, and Larkin, 2009; and Smith and Osborn, 2015).

3.6.1 Ideography

Within the philosophical approach within IPA, is the underpinning of ideography. Its aim is to explore what is unique, what is the essence of the phenomenon being studied and to better understand the meaning of the lived experience. It particularly focuses on the unique and individual experiences rather than the general veteran populations experience (Finlay and Ballinger, 2006).

Ideography also provides a form of structure, a systematic approach, which helps in the formation of attempts to develop deep understanding from the theoretical explanations from each transcription (Smith *et al.*, 2009). To do this according to Smith *et al.* (2009, p.28) "*to understand the part you need to understand the whole at a series of levels".* From process and analytical terms, interpretation is completed using a non-linear way of thinking. For example, an accumulation of words may have one meaning, but stepping back and looking at it within a sentence or paragraph may have a different meaning altogether. Therefore,

moving back and forth, over many levels of the transcripts and texts, all of which may or may not relate to one another, to identify any new insightful phenomena that previously, verbally has not been explored and become part of the hermeneutic cycle. This was particularly important that no part of any participants transcripts is missed, that all rich and meaningful experiences are captured.

3.6.2 Hermeneutics

Hermeneutics is a theoretical underpinning within the IPA approach that comes from the process of interpreting the meaning within written scripture, transcripts, philosophical literature; and biblical texts (Grondin, 1994). Therefore, Hermeneutics aims to explore the dialogue of words expressed during interviews or discussions, which are analysed; may produce a subconscious meaningful insight into unexplored emotional themes of lived experiences, which goes beyond the conscious words expressed by the participant (Smith *et al.*, 2009).

Within the power of the use of language, words and, the dialogue of words expressed during discussions or during interviews, that the core essence of being could be explored deeper within the conscious and unconscious levels of the soul itself, to search for true meaning (Van Manen, 2016). When moving between the whole, to the parts of text and back and forth, the whole, a process called '*hermeneutic circle'* is used. Heidegger quotes -"*the researcher is attuned to the gap between conscious and unconscious, which is bridged by the symbol as the expression of the transcendent function*" (Romanyshyn, 2013, p220). Therefore, the process of hermeneutic circle is an ongoing process, and infinite within its co creation of reality. With this understanding Heidegger also realised that the analysis stages of the research may differ also depending on the researcher's perspective and the given meaning to the participants experience. Also understanding of the importance of bracketing

within interpretative research, highlighted its important within understanding and its role within the realms of reflective practice.

From this interdependent relationship within hermeneutics and phenomenology, a process called '*double hermeneutic*' is used within IPA. Whereby the researcher looks at the participants own perceptions of their experience and secondly, the researcher is also trying to make sense of the participants understanding, meaning and perceptions of those lived experiences. Smith and Osborn, (2015, p.26) explain as " *the participants are trying to make sense of their world; the researcher is trying to make sense of the participants trying to make sense of their world*". Furthermore, Heidegger also highlighted the importance of bracketing one's own personal beliefs and perceptions within interpretative research by using reflective practice (Smith, Larkin, and Flowers, 2009).

3.6.3 Bracketing and Reflexivity within IPA

The preconceptions of any researcher with understanding, knowledge, or interest in the aim of the study being undertaken is called 'fore-structure,' which could be seen as an influence within the interpretation process. Smith, Larkin, and Flowers (2009, p.65) states that "*while the existence of fore structures may precede our encounters with new things, understanding may actually work the other way*". For example, after engaging with the interview texts of veterans, as a researcher that is following the IPA approach and method, personal or professional preconceptions are better identified as soon as possible, to eliminate the sense of ego and own bias. It is also possible that preconceptions will emerge during the interpretation process, subconsciously without pre-existing knowledge.

Therefore, the focus has to be on looking at transcripts and texts from a neutral perspective. In terms of the IPA approach and method this is important to the interpretation process. For example, not relying on previous knowledge and experience of veteran's health to impact the interpretation of the transcripts, instead, being open to what the transcripts themselves are subconsciously telling us and looking at new phenomenon. A "Bracketing off" approach, which is also used within reflexivity of one's own preconceptions, thoughts, feelings, and emotions during each stage of the study, in particular the interpretative analysis process. Thus, creating a subjective position within the interpretative analysis of participants transcripts (Smith *et al.,* 2009). Therefore, the importance of reflective practice whilst conducting IPA is very much part of the hermeneutic process and own journey to be able to bracket and separate personal experiences, emotions that may arise during IPA research.

3.6.4 Critique of IPA

A positive and criticism of IPA according to Pringle *et al.* (2011) is that idiographic research tends to be very person centred-wholeness approach, looking at the uniqueness of each participants' interview transcripts with the aim of giving a very in-depth picture. Therefore, with the small number of participants within IPA any generalisations found within the transcripts, make it difficult to establish which variables are important. However, broad generalisations may not be possible, commonalities, similar accounts and theoretical dialogue can lead to some interesting new insights. Although smaller sample sizes have also be seen as a criticism of IPA, Smith Larkin, and Flowers (2009) states that having smaller sample sizes allows for a richer depth of analysis from the individual and takes the researcher beyond any written meaning.

According to Smith, Flowers, and Larkin (2009, p.55), the researcher will need underlying qualities of "*open mindedness; flexibility; patience; empathy; and the willingness to enter*

into, and respond to, the participants world". With the ability or knowledge to "bracket off" one's own subconscious thoughts, feelings, and perceptions, which could influence the analysis process. Reflexivity of own thoughts and experiences are used to highlight and acknowledge this but to also look at many interpretations of reality and its role within being valid. A further understanding of reflexivity and its role will be explained within Methods, the next chapter.

There is limited guidance on how IPA should be completed and undertaken. Therefore, the researcher needs to identify and demonstrate how they have maintained qualitative credibility throughout (Pringle, Drummond *et al.*, 2011). However, Smith, Larkin, and Flowers (2009) have developed a comprehensive book for IPA research, that is written in a step-to-step process to roughly guide researchers through the IPA approach.

3.6.5 Justification for Using IPA for this Study

The aim of this study was to look into the depth and meaning of the phenomena, rather than the descriptive experiences of chronic pain, by developing an interpretation of the experience. Interpretative Phenomenological Analysis (IPA) (3.6) was selected as the most suitable approach for this study, with its three methodological influences within phenomenology, hermeneutics (3.6.2) and ideography (3.6.1). Bracketing and double hermeneutics are important parts of the IPA research process, exploring how individuals make sense and meaning of their lived experience. It looks at uncovering the essence of the phenomenon operating on a number of levels of understanding and consciousness.

The importance of the IPA analysis process is to capture the meaning of the experience through participants narrative accounts, interpretation, and reflection. Moving between the

part to the whole. Providing us with the unique approach of individuals voices whilst, maintaining a balance of shared themes

3.7 Conclusion

In conclusion, the aim of this chapter was to guide the reader through the journey of exploration around research methodology, seeking an approach that would explore the lived experience of veterans injured in conflict and living with chronic pain. When asking this explorative question, the ideal method required the collection of deep, rich data, as found in phenomenology and Interpretative Phenomenological Analysis. IPA approach is able to capture not just the lived experience, but more importantly the raw meaning of those individual experiences of veterans.

This knowledge of the lived experiences would bridge the gap within veterans' health research, in understanding the meaning of the experiences, to better support the daily lives of injured veterans, living with chronic pain.

Chapter Four: Methods

4.0 Chapter Four: Methods

4.1 Introduction

IPA was introduced during the methodology chapter as the approach that would best answer the research aim and question (Smith *et al.,* 2009). Therefore, guidance for conducting this study was taken from Smith, Flowers, and Larkins (2009) IPA theory, method, and research. This chapter focuses on the process and the research journey that was taken to conduct the study, commencing with the importance of the research design, sampling and participants, data collection. Followed by consideration of data analysis, rigour, ethical considerations, and researcher reflexivity.

4.2 Research Design

The research design section highlights the various stages of the research process and how the aim of this study was addressed using IPA. An open-ended research question was developed, directing the aim of the question towards sense-making, meaning and participants understanding of their lived experiences.

"*What are the lived experiences of 21st century combat veterans with chronic pain, secondary to combat injury*?".

As outlined in the previous chapter, IPA aligned well with the aim of my research yet initially it was challenging due to the limited resources in this area. Since starting data collection there has been a greater increase in resources which have helped me to gain a more detailed understanding of the approach and its application to my research. Smith (2009), a seminal text provides a comprehensive guide on the history of IPA, how to conduct IPA research and includes helpful strategies for real-world research. A strength of the approach is the flexibility around each step that is taken in the process, yet this can also present challenges

and uncertainty of approach for a novice researcher. Smith provides a guide, whilst emphasizing that the researcher uses wise judgement and experience, however it can be adapted according to the researcher's context whilst remaining true to the philosophical underpinnings of the approach. The data were collected using semi-structured interviews and analysed using Smith *et al.*'s (2009) step by step process.

4.3 Sampling, Recruitment and Participants

Smith, Flowers, and Larkin (2009) highlight the importance of using an appropriate sample to best answer the aims of the study. The veteran community is a hard-to-reach population which became more apparent during the recruitment phase. Many veterans particularly struggle to engage or trust anyone outside of the veteran world. IPA samples are typically small in order to gain an in-depth exploration of the lived experiences of the individual, and to collect rich and meaningful data (Smith, 2015).

The first three participants formed a homogenous sample were recruited by friends/colleagues that knew these individuals. The remainder were recruited using a snowball technique by those who had taken part in the interviews. They therefore created their own recruitment within their own community of wounded.

During the recruitment process there were sometimes some struggles with getting veterans to talk about pain experiences, rather than post traumatic syndrome disorder (PTSD) and mental health. Initially it took some time to start the recruitment but then the community engaged and wanted to be interviewed. However, unfortunately many of the potential participants who were interested did not meet the inclusion criteria, as their issues were more related to PTSD/mental health. It was therefore not possible to include them which was challenging for the researcher to manage as it felt like 'turning down' participants. I made it

clear to them that although their experiences are valued and could make an important contribution, they were not the focus of this research.

Inclusion Criteria

- Served in the UK Armed Forces, now Military Veteran
- To have been physically wounded within Conflict, after year 2000
- Battlefield Injuries (BI)
- To be able to communicate themselves
- Have mental capacity to understand what is being asked of them and the information being provided to make informed choices.
- Living with Chronic Pain

Exclusion Criteria

- UK Serving Military
- Wounded in service
- Non-Battlefield Injuries (NBI)
- Wounded before year 2000 in conflict
- Unable to communicate for themselves
- Vulnerable Adult
- Lacks Capacity to consent
- Mental Health (only, not chronic pain)

A homogenous (purposive) sample was used, which means that participants sample came from the UK veteran's community that had individual personal experiences of living with chronic pain, secondary to life changing injuries from 21st century battlefield injuries. Veterans that participated in this study, felt from their own experiences that other veterans would benefit by telling their stories and feeling actively listened to, which in turn helped them to talk about their raw experiences. This personal feedback within the veteran community created a natural rolling snowballing effect. Snowball samples as an example of a purposive approach have limitations due to their lack of representativeness. However, the advantages of using snowballing sampling are that it reaches veterans within an extremely hard to reach population, which would be difficult to reach through other sampling methods (Johnson, 2014). This sample technique needs some time for the snowball effect to commence. Which can be due to developing trusting relationships with the researcher, particularly if the researcher does not belong to the population, or little experience of working within the field topic (Cohen and Arieli, 2011).

Sampling bias is also always a concern for the researcher using a snowballing technique, due to initial veterans nominating other veterans they know well (Baltar and Brunet, 2012). With the case of 21st century veterans, this is a likely outcome due to the number of veterans injured and there only being at the time two hospitals used for medical evacuation and one rehabilitation centre within the UK. Disadvantages of using the snowballing technique are that the researcher relies on the previous participant (veteran) who took part to contact another veteran with the same experiences (Heckathorn, 2014). Therefore, veterans of the same experiences may not be guaranteed. For example, they have been in the same wars, but their main injuries are mental health not physical injuries; they may have served in wars pre-2000; they may have been injured in service but not in conflict. The impact of the

snowballing effect in this study, meant that some of the participants did not meet the inclusion criteria as well as others.

4.4 Data Collection

When collecting data within the IPA approach, Smith, Flowers, and Larkin (2009) highlight the importance of selecting an appropriate method that will provide participants with the ability to talk about their rich and meaningful experiences. Methods such as diaries were considered as an alternative choice of data collection, however, limited literature was found on their use within IPA, and primarily used in the context of longitudinal IPA research. Diaries have also mainly been adopted with multiple data collecting methods such as interviews and personal documentation for triangulation (Smith, 1999a).

Interviews are the most common method for collecting data within IPA (Smith, Flowers, and Larkin, 2009). There are however different structures and approach. Structured interviews are particularly widely known as a means of data collection use within the quantitative realms of research. In structured interviews, the interviewer can be detached from communication and relationship building from the participants, because the aim of these type of interviews is more about measurable, fact-finding responses that can be categorised, instead of the personal experience or understanding of the participant (Bryman, 2016). In some structured interviews there is an option as a participant to also include an open response. However due to the structure of the question, it is likely that these responses are also coded and categorised. The advantage of structured interviews is that the schedule of questions is conducted in the same order which is also important in terms of reliability (Flick, 2017). However, structured interviews can create many constraints which is felt by participants in particular around the freedom to respond and talk about experiences that they feel is important and relevant. Due to these constraints and the pre-coded responses to

participants interview responses, structured interviews do not explore the rich and meaningful experiences of individual participants. Therefore, structured interviews would not fulfil the aims of this study or answer the research question around the lived experiences. A phenomenological interview requires much more open questions about feeling, perceptions and understandings (Seidman, 2006), so a structured approach was not appropriate.

Semi-structured interviews were explored as a preferred method within the IPA, due to their ability to contain open and closed questions, making it easier to access the meaningful lifeworld experiences of participants, through their use of emotions, thoughts, and stories (Cohen *et al.,* 2007). Advantages to using semi-structured interviews are the flexibility around the interview schedule, giving the interviewer the ability to truly be present in the moment to capture these raw, rich, and meaningful experiences through focusing on the participants and actively listening to the information that is being shared (Flick, 2017). This flexibility also includes the order of the questions being asked. The ability to create space and time between questions for participants to gather thoughts or to breathe when speaking about sensitive topics. The interviewer can also use probes within the questioning to provide more in-depth data than would be obtainable through other avenues. Importantly, giving participants the ability to share further raw and meaningful experiences that may not necessary be connected to a specific question. But is relevant to their experiences and still answers the research question. These issues are paramount when building trusting relationships and rapport with participants; especially when interviewing wounded veterans who are talking about their life changing injuries and chronic pain Miller and Crabtree (1999).

The challenge of using semi-structured interviews includes the length of time interviews and analysis can take to complete. To truly focus on the deeper meaning for participants this is

not a process that can be rushed or manipulated. However, the aim of this study was to fully explore the lived experiences of veterans, therefore length of time to complete this study was not seen as a disadvantage, instead it was seen as an opportunity of capturing and unravelling the more-deeper levels of the meaning these experiences (Pietkiewicz & Smith, 2012).

4.4.1 Developing the Interview Schedule

Smith, Flowers, and Larkin (2009) emphasise the importance of developing a well thought schedule is to provide a comfortable interview experience for the participants. Which can enable them to feel safe enough to engage with their deep and meaningful experiences. This was essential when interviewing veterans during this study, who were being asked to possibly revisit uncomfortable memories of those life changing injuries. When using IPA, the construction of individual questions needs to be as open as possible, to encourage participants to fully discuss their experiences in great depth. Developing the type of questions was discussed with supervisors, and advice was provided on the importance of the openness of the questions. Potential prompts were also prepared that could be used to build a conversation during the interview (Pietkiewicz & Smith, 2012).

In the current study, the interview schedule began with some lighter and broader questions as ice breakers around military service, before looking at questions that were developed more closely around the study aim. The seven questions included topics that could offer narrative and descriptive experiences around participants injury, support mechanisms, post medical discharge, managing daily pain, and coping methods. (See Appendix 1 - Question Schedule).

4.4.2 Preparing for Interviews

Careful consideration was given in preparing for the interviews, I was mindful of my own prior experiences and how this was managed. It was important to identify any personal

experiences, feelings and positioning in relation to the phenomenon. Throughout the research process, awareness around reflexivity and rigour was considered. Number of different strategies was adopted to address these concerns that included regular discussions with supervisors; using and following Smith, Flowers, and Larkins (2009) IPA framework; reflexive journals; also, self-awareness, which included recognizing the need, when needed for research breaks from the analysis process.

A pilot interview was completed with a neutral veteran colleague for feedback on how the interview experiences was for them. To use the interview experience to prepare the interviewer for eventualities, and any key concerns that may arise before the first interviews took place (Kezar, 2000).

Environmental setting was also explored, that would help create a meaningful and stress-free interview experience for the participants. The participants were dispersed across the UK, and participants were asked their preference of where they would feel most comfortable answering questions. Semi structured interviews were conducted face to face with 3 of the participants within their own home. Other participants found that over the phone or skype interviews was more comfortable for them to share their personal experiences, within an informal approach and still feel in control. There were some small administration connection difficulties with the online interviews and phone calls, because some participants were in remote areas of the UK. Methodologically, the interviews in this study did not differ, which is acknowledged in comparisons of different administration approaches to qualitative interviews (Sturges and Hanrahan, 2004). Although initially there were some concerns about the different interview administration types used, they still provided in-depth qualitative data.

Before each interview it was important for the interviewer to spend some time with participants, building trusting relationships and rapport to help them feel comfortable and at ease. This also gave the interviewer some time and space to observe, being actively mindful and aware of any concerns that may arise during the interviews around emotional or psychological wellbeing. Participants had the opportunity to see a copy of the question schedule, to discuss any concerns around the questions and the interview process. Also, around confidentiality, consent, and the right to withdraw at any point in the study and post interview. Strategies used to engage with the participants included asking them about lives, families, and just really showing a true interest in them. Whilst being mindful of my role and boundaries as a researcher in building a rapport but also minimizing bias (Bryman, 2016).

The duration of the interviews varied between participants this was due to multiple reasons. Such as, various levels of descriptive and contextual narratives that were shared and how much information the participant wanted to share. Some participants added further narratives, to their answers around other relevant experiences that was meaningful to them. Also, the interviewer was careful to be aware of any verbal and non-verbal anxiety or stress that was observed from participants. Whether participants needed a small break for a drink, take tablets move, or other environmental distractions such as animals, family members, and phone calls. This was particularly important when interviewing veterans that are experiencing life changing injuries and chronic pain.

To fully capture the rich and meaningful experiences of the participants in this study, with the full consent of the participants, the interviews were audio recorded with a digital recorder. Interviews were transcribed verbatim to word documents for the detailed analysis to be undertaken. When conducting IPA, the importance of being fully present during the

interviews is paramount (Smith, 2015), which is not possible when trying to conduct the interview and transcribing the participants answers by hand.

When conducting interviews with a vulnerable group it was important to provide appropriate post-interview support. Where appropriate (and at the choice of the participant) the researcher contacted participants the following day after their interview as a debrief and to check whether they needed any further support. It was important to approach topics of coping or needing support with sensitivity. Furthermore, being mindful of building rapport with participants and also maintaining the role of the researcher.

4.4.2.1 Justification for using IPA to Analyse the Interviews

Interviews were conducted in two phases, firstly for the preliminary part of the original study and subsequently post-transfer stage as a phenomenological study. The semi-structured interviews from first phase of the preliminary part of the original study, were answered by participants with such meaningful, deep, and personal experiences that were so richly phenomenological. Exploring these meaningful, lived experiences became the main importance of the study. The focus of the study changed to a phenomenological focus.

IPA has the ability to go beyond any verbal or written transcripts through its analysis process. Therefore, IPA was selected as the appropriate approach, that could explore the deep meaningful and personal lived experiences of participants. All of the interviews were analysed using the IPA analysis process (Smith, 2015)

4.5 Data Analysis

The following data analysis section provides a step-by-step process that was taken in this study in attempts to find meaning (Frankl, 2004), and make sense of the participants

experiences. Guidance from Smith, Flowers, and Larkin (2009) was used to capture the essence of the IPA through its analytic focus.

This flexible process of iterative and inductive circles (Smith, 2007) focuses on the shifting back and forth of the transcripts from the word, sentences, paragraphs to the whole. Creating in-depth attempts by the analyst who is trying to make meaning and sense of the participant's experiences, and the participants attempts to make sense of their own experiences, thus creating a double hermeneutic. It is recognised that this analysis journey is one of complex inquiry and meaning making using creativeness, intuitive, sensory, and intense focus of going deeper beyond the transcripts, searching for not just the hidden meanings of the words but the unspoken meanings that cannot be seen in the transcripts on first view.

4.5.1 Rigour of Analysis

According to Yardley (2000), there are four broad principles for assessing quality. Firstly, using the *sensitive approach* and nature of the researcher which includes being fully aware of the participants, showing empathy and building strong trusting and meaningful relationships. Alongside this also being mindful when analysing participants interviews, these are participants lives, experiences, and expose vulnerability. It was important to respect participants with dignity and to honour sections of verbatim from their interviews within a pure and honest process.

Secondly, *commitment and rigour* of the analysis process, can be demonstrated in a number of forms. The commitment taken to engage with the analysis process and attending closely to the words and the meanings to the participants. *'Making sense of their experience requires immersive and disciplined attention to the unfolding account of the participant'* (Smith, 2009,p.180). To do this completely takes time, space and an openness but also bracketing

any thoughts, through using the IPA analysis process. Being able to move beyond what is there, to what it means to the participants.

Thirdly, *transparency and coherence* (ibid, 2009, p.182) the importance of being transparent and describing each step clearly and concisely, trying to put yourself in the place of the reader. The importance of good analysis, writing and clarity. In particular, attempting not lose sight of the heart and focus meaning of the research itself.

Lastly, the *impact and importance* of the study. Yardley (2000) states that this is where the true testimony of assessing quality comes from. The validity is in the impact, meaning, and the significance that the participants experiences are sharing with the world. What does their experiences mean? How can it help to make a difference to the lives of other veterans? Or how can it provide knowledge and understanding around best practice, policy or new strategies around veterans' health and wellbeing? These considerations are all valuable and significant outcomes to the validity of the study and true meaning.

According to Smith, Flowers and Larkin (2009)*'it is important to remember two things; it's about finding the right balance; IPA is a creative process and not a matter of following a strict rule book. Therefore, the process of validity should also be flexibly applied to each individual study*' (p.184). Therefore, keeping an in-depth audit trail of how the research and in particular analysis evolved following discussion with supervisors was well documented.

Part of the interview process included making personal notes on the interviews and my own personal thoughts. In doing so it facilitated engagement with re-listening to the interviews and with the transcribing process. Further notes were made when relistening to the audio for more sensory observations. Although not critical within the IPA method, but for me personally for my own thought process to fully engage within the transcriptions.

As a novice researcher I found my confidence build as I progressed through the interviews. I developed a more in-depth effort to fully listen and noticing key moments in the interviews, being more confident and aware of when to probe or dig deeper.

4.5.2 Analytic Process

After transcribing the data, the researcher works closely with the text, reading it closely for insights into the participants' experience and perspective on their world and coding it. From that stage the researcher catalogues the emerging codes and begins to look for patterns in the codes. From these codes the researcher tries to establish emerging themes. Themes that are likely to identify something that matters to the participants and also convey something of the meaning for the participants. Analysis steps and the development of the emergent themes that were taken in this study are now discussed in further detail. (See Appendix 2, for the visual images of the process).

Smith (2009) also encourages using personal ways to engage with the journey. For me personally being creative, I also included using highlighters, coloured paper and post its to help really dig deeply into the experience and the meaning (See Appendix 2). There were times that I raised questions within my own note taking, but these questions could not be answered from the transcripts or any subconscious meaning, and I did find this frustrating. I discussed these moments with supervisors and considered guidance about how to manage these questions or thought process (Smith, 2009). At times, resolving my queries and thoughts took time. Some issues were resolved, other questions were less easy to *'unpick,'* and some questions could never be fully answered or understood. I used the work of Frankl to explore a deeper meaning of suffering through the analysis process (2004). Frankl recognised that research has many possibilities including raising more answers, particularly when seeking to understand the lived experiences and the meanings of those experiences.

Step 1- The Engaging of Reading and Re-Reading

Step One began with reading, re reading the first transcription multiple times, completely engaging, and immersing fully within the original data. Listening to the audio recordings over and over of those transcripts whilst reading the transcripts. Putting initial thoughts with journal notes that had been made whilst reading and listening to the transcripts, with previous notes that had been made after the interview (Figures 3 and 4). These thoughts and notes not just included observations from the interview, but also overwhelming personal feelings and emotions experienced from reading and listening to the participants transcripts. Also, possible connections and ideas that needed to be bracketed to reduce some of the feelings and personal noise. This creating conscious space to be fully present, to focus on the participants transcripts and experiences.

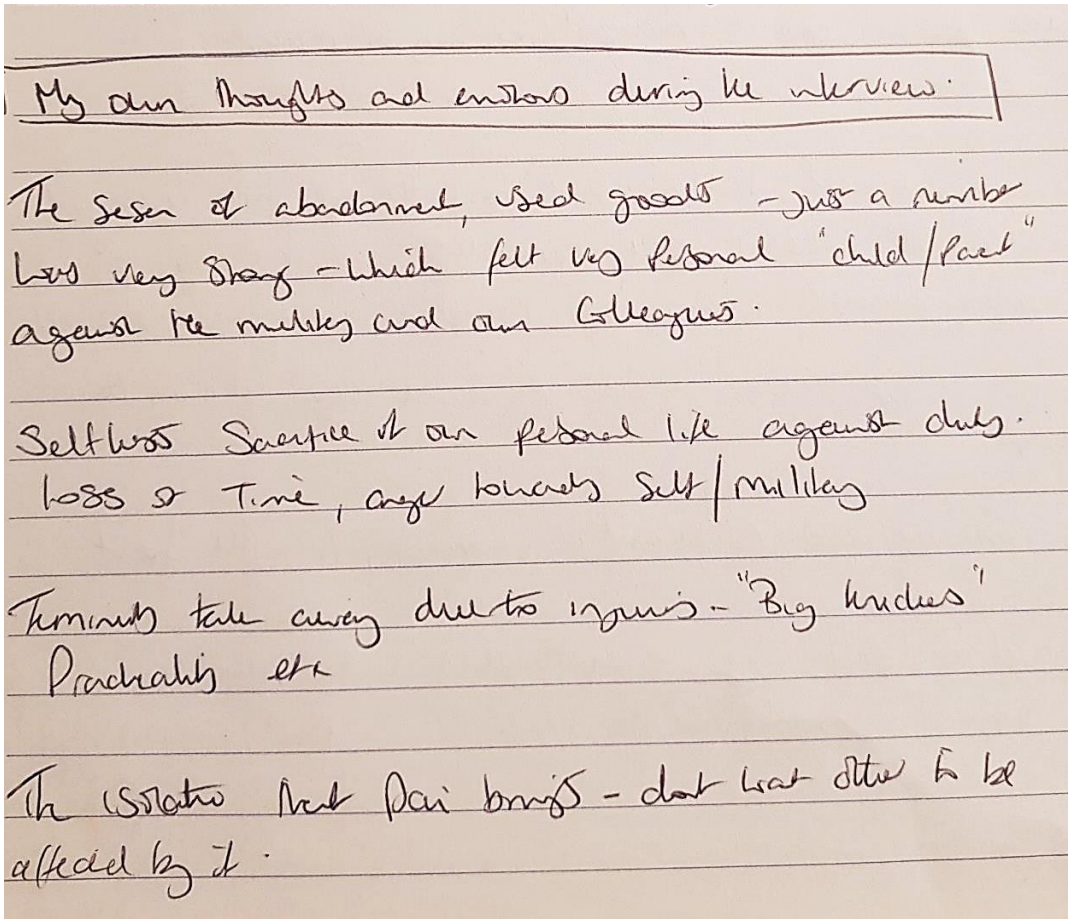


Figure 3: Notes- example from Interview 2 with Molly

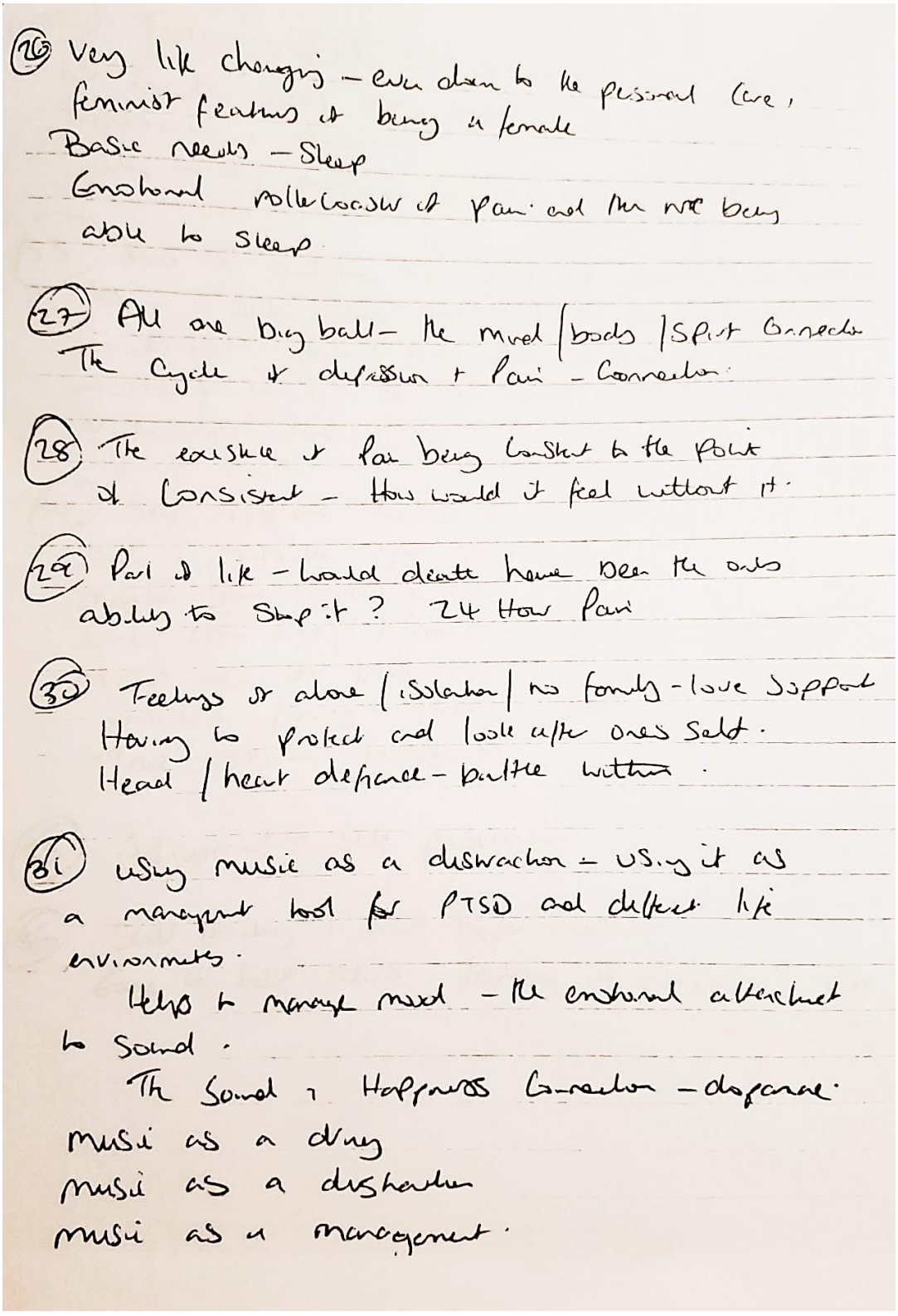


Figure 4: Personal notes taken – while emerging with the transcripts of Molly

Step 2 – More Detailed Note Taking Whilst Immersing with the Transcript

The second stage of analysis is significantly important for the continuation of engaging with each line of transcript, the development of free-flowing notes and highlighting key thoughts. Furthermore, this stage looks more at the explorative thoughts, comments and interpretative noting that is added on the transcript. Which also includes descriptive, linguistic, and conceptual comments (Figure 5). Conceptual comments being the hardest - where the shift comes from personal focus towards the participants meaning this may have for them. Which can be most time consuming, and emotionally draining. With the frustration that comes when questions around the experiences arise by the analyst that cannot be answered in this research at this time, possible theories, unknown meanings, points to look at further. Personal awareness is important at this point and to be in recognition of any feelings and thoughts that may arise, which have to be journaled for reflection, that need to be bracketed away. Bracketing between each transcript was really important to park any pre-perceived thoughts, judgements, or beliefs (Smith, 2007; Finlay and Gough, 2003; Etherington, 2006).

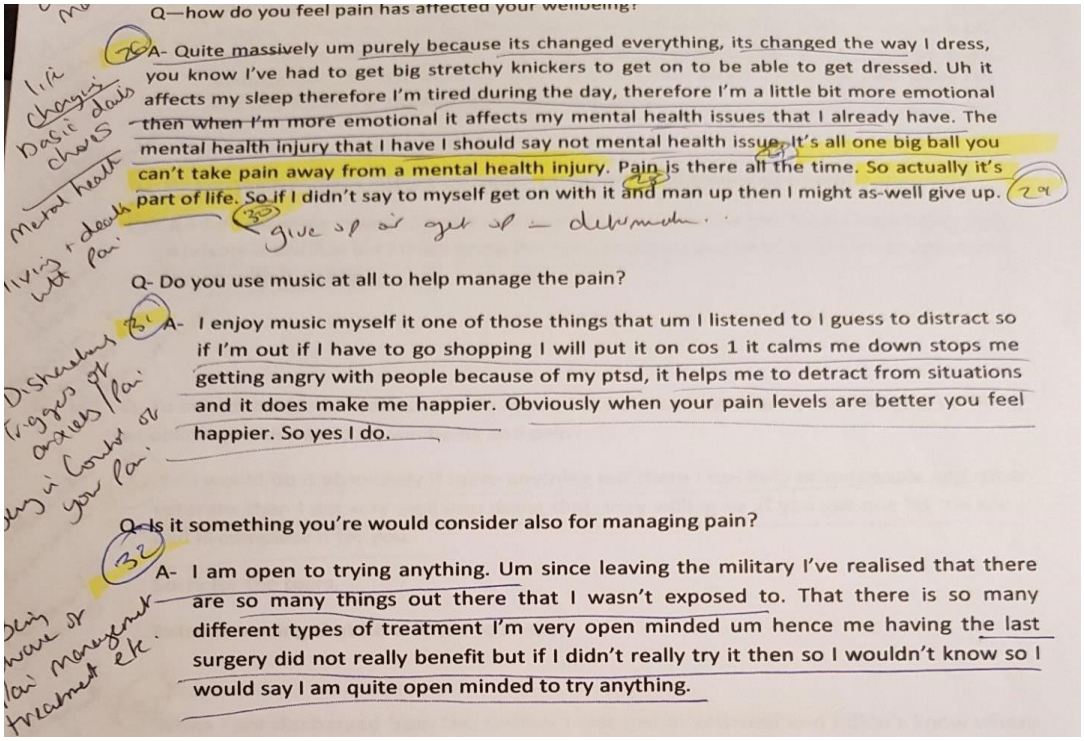


Figure 5: Transcript Notes – example of transcript from Molly

During this stage, supervision discussions centred on how I had progresses with the analysis. The process has involved looking at reflexivity, comparative notes, the process of transcribing and the art of submerging one-self within the experiences. A difficult part of this process was the arising questions around the lived experiences for the participant, that may or could never be answered in this study. The guidance given, was that sometimes questions or thoughts may arise and to reflect on those questions for now and bracket them away. They key is to focus on the continuation of the analysis and what could be answered of explored further (Appendix 2).

Step 2b - Going Back and Moving Between Step 1 and 2

The importance of step 2b was to move the analysis exploration from purely superficial to the contextual, the descriptive to the interpretative levels of this process. Based on the researcher's perspectives, life experience and sensory awareness. Analysing this concept can take considerable time to fully immerse and submerge in the experience within the transcripts. During this stage further highlighting of text that seemed important. With further feedback from supervision was given on the analysis process which included, reflective journals of thoughts, feelings, and the emerging of some themes from the interview (See Appendix 2).

Step 3 - Developing Emerging Themes - Working Between Notes and Transcript

From step 1 and 2 the exploratory thoughts and comments have developed on a deeper level from the transcript. With transforming initial notes into emerging themes, which continued throughout the transcript. Exploring the patterns from the notes, and also keeping pure to the transcripts. Through using the hermeneutic circle, breaking the whole into important moments and those moments are part of the whole. Remembering to bracket any thoughts or feelings that may arise during this process. This particular stage is slowly moving away

the participant led experience and transcripts to the analyst becoming an important part of the IPA process. Meaning that the analysis process and the essence of this study becomes a collaborative outcome between the participant and the researcher. Discussions with supervisors focussed on the emerging themes and the challenges of the balance between the collaborative participant and analyst.

Step 4 - Looking for Connections, Charting and Mapping Themes Identified from the Transcripts

At this point the focus is on the transcript notes, identifying on patterns or connections that are emerging from the notes, that may be creating some forms of themes. Through the stages of developing themes, looking at transcripts within parts to the whole learning to engage within the hermeneutic circle.

Organizing themes took a further process of submersion, digging deeper, looking further, pushing the analysis to an elevated level of understanding. Bringing together transcript extracts altogether and connecting also took a deeper level of analysis.

Step 5 - Repeating Step 1-4 with the Next Participants Transcript

The process of Step 1-4 is repeated for each transcript separately. It was important to bracket any thoughts and themes that was found in each transcript. This, allowing thoughts, notes and themes to emerge naturally, without being influenced from one transcript to another. Visual mapping was repeated through this process, journaling and charting was also used with all the transcripts (Figure 6 and 7).

59.	Its all one big ball you can't take pain away from a mental health injury.	Mind/ body connection	Pain affecting mental pain Somatic and nerve pain Can't get away from it- constant reminder Didn't ask to be injured- it was inflicted upon Loss of control Unable to manage	
60.	Pain is there all the time	overwhelming	Life ruling No break from it- constant Controlling Unmanaged pain	

	Sections of Transcripts	Analysis 1	Analysis 2	Emergent Themes
61.	So, its part of life	Having to adapt deflated	Trying to find some acceptance Infringed upon Had no choice of this	
62.	If I didn't say to myself get on with it and man up, then I might as-well give up.	Determination Inner strength	Get shit done Military resilience- could be seen as weak Finding light in the darkness Having to dig deep Knowing self	

Figure 6: Developing emerging themes- working from notes and transcript

Themes Found	Dan	Jon	Moll	Matt	Jim	Jase	Lee	Chris	Andy	Brad
Matter of fact- descriptive accounts of their injuries	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Total awareness of the injuries caused on their lives	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Left service too soon- feelings of failure	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Thankful/ great-full to colleagues that saved their lives/ or helped through recovery				✓		✓				✓
Thankful/ injuries could have been worse							✓			✓
Sense of belonging/ having purpose			✓		✓	✓	✓			✓
Calling for duty- a personal choice			✓		✓	✓	✓			✓
Anger at self			✓			✓	✓			✓
Abandoned by the military		✓	✓				✓			
Moments of desperation through pain	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Loss of control over mind and body			✓	✓		✓	✓			✓
Fully aware of the changes to the mind because of pain			✓	✓		✓	✓	✓		✓
Self- awareness over the impacts of injuries on daily life	✓	✓	✓			✓	✓	✓		✓
Impact on masculinity/ femininity			✓			✓	✓			✓
Affects personal relationships	✓	✓				✓	✓		✓	✓
Randomness of daily pain	✓			✓			✓		✓	✓
Fully aware of self of daily pain	✓	✓		✓			✓	✓	✓	✓
More aware of physical body					✓	✓	✓		✓	✓
Willing to try anything for pain relief	✓	✓	✓	✓			✓		✓	✓
Plays down the level of pain- sense of protection	✓				✓	✓				✓
Loss of time	✓	✓	✓	✓			✓			✓
Having to adapt life around the pain	✓	✓			✓					✓
Isolation caused by pain	✓	✓	✓	✓	✓	✓	✓			✓
Pain effects social life	✓	✓	✓		✓		✓		✓	✓
Frustration with self around recovery		✓	✓			✓	✓	✓		✓
It will go away eventually	✓	✓		✓	✓	✓		✓	✓	✓
Holding onto core self			✓		✓	✓	✓	✓		✓

Figure 7: First version of subthemes- page 1 of 3 (Participant's name colour relates to the coloured post-it used during the visual development of the themes).

Step 6 – Looking at Patterns Across Participants Themes – Using Visual Post Its

From the chart of subthemes that was put together to explore the patterns. All the emerging themes were added onto a visual board of coloured post it notes. Each colour, represents a participant, making it easy to identify and visually see the recurrence of themes across the transcripts (Figure 8, 9 and 10).

Figure 8: Participants Emerging Themes

This process took a considerable amount of time, with focusing on further evolving/ emerging theme names when there is more than one similar topic. Supervision discussions

and feedback focussed on theme searching and emerging with the themes further, with exploration taken around credibility and creative engagement.

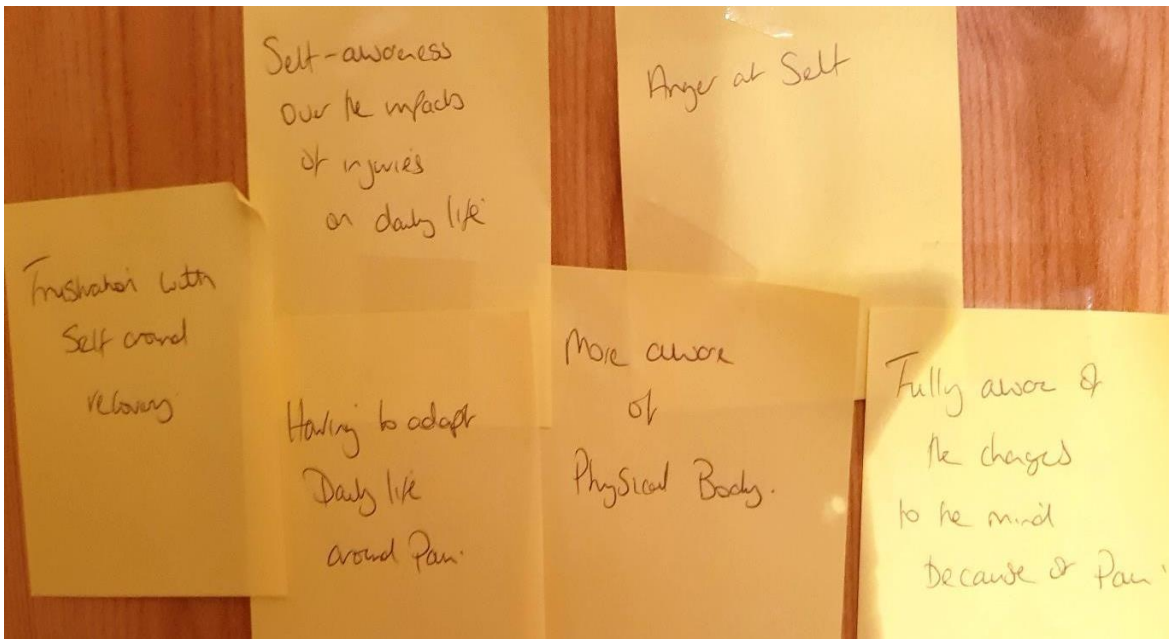


Figure 9: Merging similar sub-themes into similar/ connecting topic groups

Figure 10: Developing subthemes- work in progress- going through the most dominant themes identified across all participants transcripts.

Step 7- Developing Superordinate from the Identified Correlating Sub-Themes

From some of the themes that were identified, some themes were explored further because of the similarities in their meanings. Therefore, theme names were explored deeper with some themes being combined and new theme names given. Developing the superordinate themes from 14 super-ordinates, down to 5 super-ordinates (with discussions with supervisors). Further reflective journals were also kept during this stage. (Figure 11 and 12, see also see Appendix 3).

Figure 11: Developing superordinate themes from the identified correlating sub-themes

Figure 12: Further development of the Superordinate's and sub- themes

Step 8- Writing Up and Further Development of Superordinate and its Sub-Themes Using the Whole Hermeneutic Circle.

Figures 13-17, illustrate the process of notes, emerging themes stages 6-8 attempt to capture the raw lived experiences of participants that evokes interpretations from the analyst. Trying to find the balance between descriptive, context and analysis without losing the meaning this may have for them. Using interweaving of telling their experiences within narration and commentary; with the use of their own words to engage with the meaning this may have for them. Further notes and personal notes were taken, with the hermeneutic circle captured before writing the analysis findings. (Appendix 4- analysis findings)

Themes Found	Dan	Jon	Moll	Matt	Jim	Jase	lee	Chris	Andy	Brad
Personal choice	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Realities of life changing war injuries and personal sacrifice	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Feelings of failure and loss	✓	✓	✓	✓		✓	✓			
Mentally broken and physically broken	✓	✓	✓	✓		✓	✓		✓	
Fearing pain itself-dependency on pain medications	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Self-awareness of the mind/body experience of pain		✓	✓	✓	✓	✓		✓	✓	✓
Out of sight, Out of mind-the abandoned warrior	✓	✓	✓	✓	✓	✓	✓			✓
Importance of supportive relationships	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Understanding the triggers of pain	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Searching for strategies to cope	✓	✓		✓		✓	✓	✓	✓	✓
Effects of Daily Pain on self	✓	✓	✓		✓	✓	✓			✓
Man up			✓		✓	✓	✓	✓		✓
Escaping the reality of pain			✓		✓	✓	✓	✓		✓
Holding onto the core sense of self	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Embracing a sense of changed self			✓		✓	✓	✓			✓
Finding a new sense of purpose					✓	✓	✓	✓	✓	✓
The Rusty old Motorcycle: Maintaining the best version of self	✓			✓	✓	✓		✓	✓	✓
Taking Ownership of self	✓			✓	✓	✓		✓	✓	✓
Personal Resilience: Fighting back with resistance				✓	✓	✓		✓		✓
Life into me again: reigniting a sense of gratitude				✓		✓	✓			✓

Figure 13: More reflection and development of the sub-themes

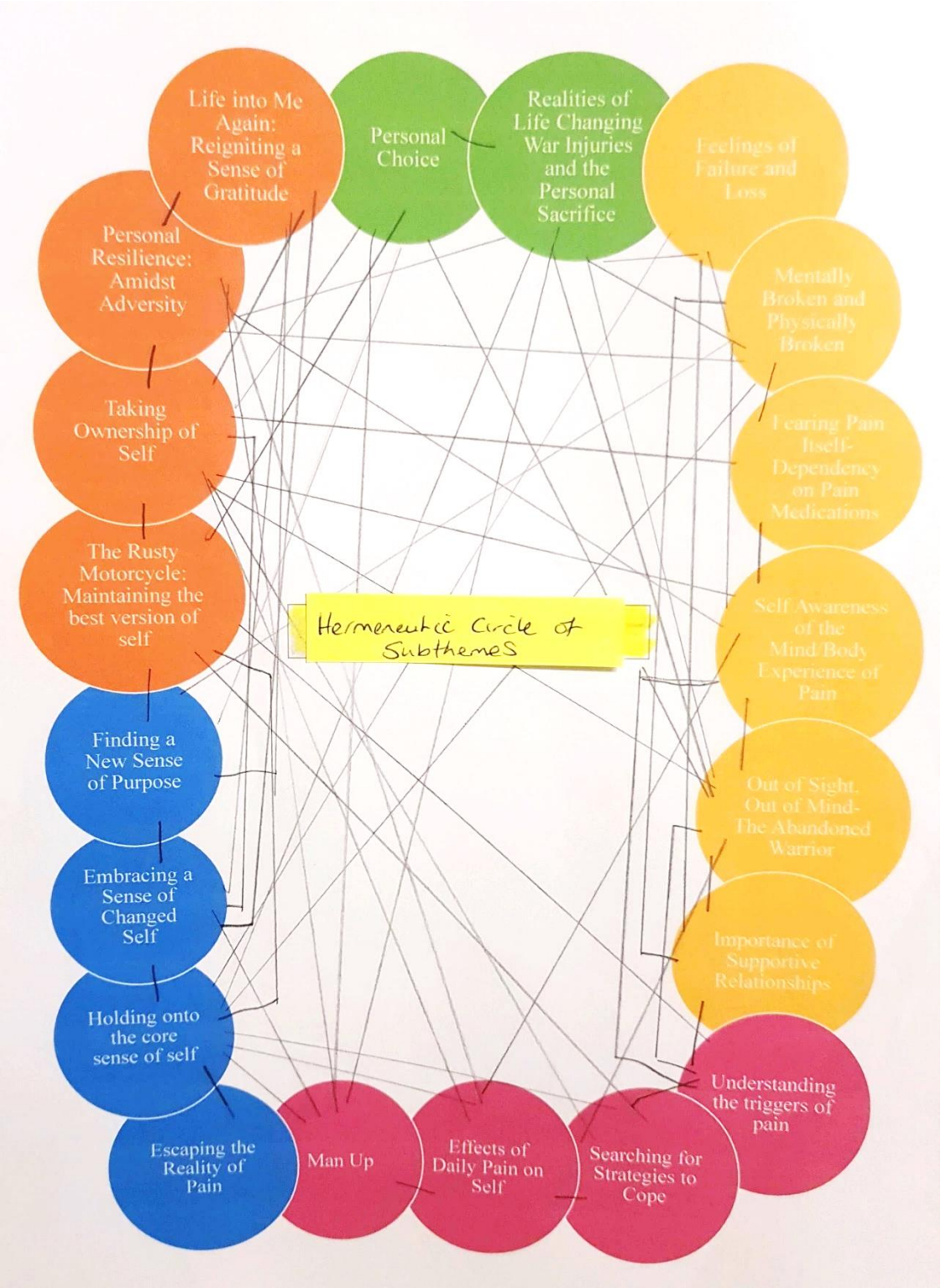


Figure 14: Hermeneutic Circle of sub-themes- The interweaving of lived experience and meanings

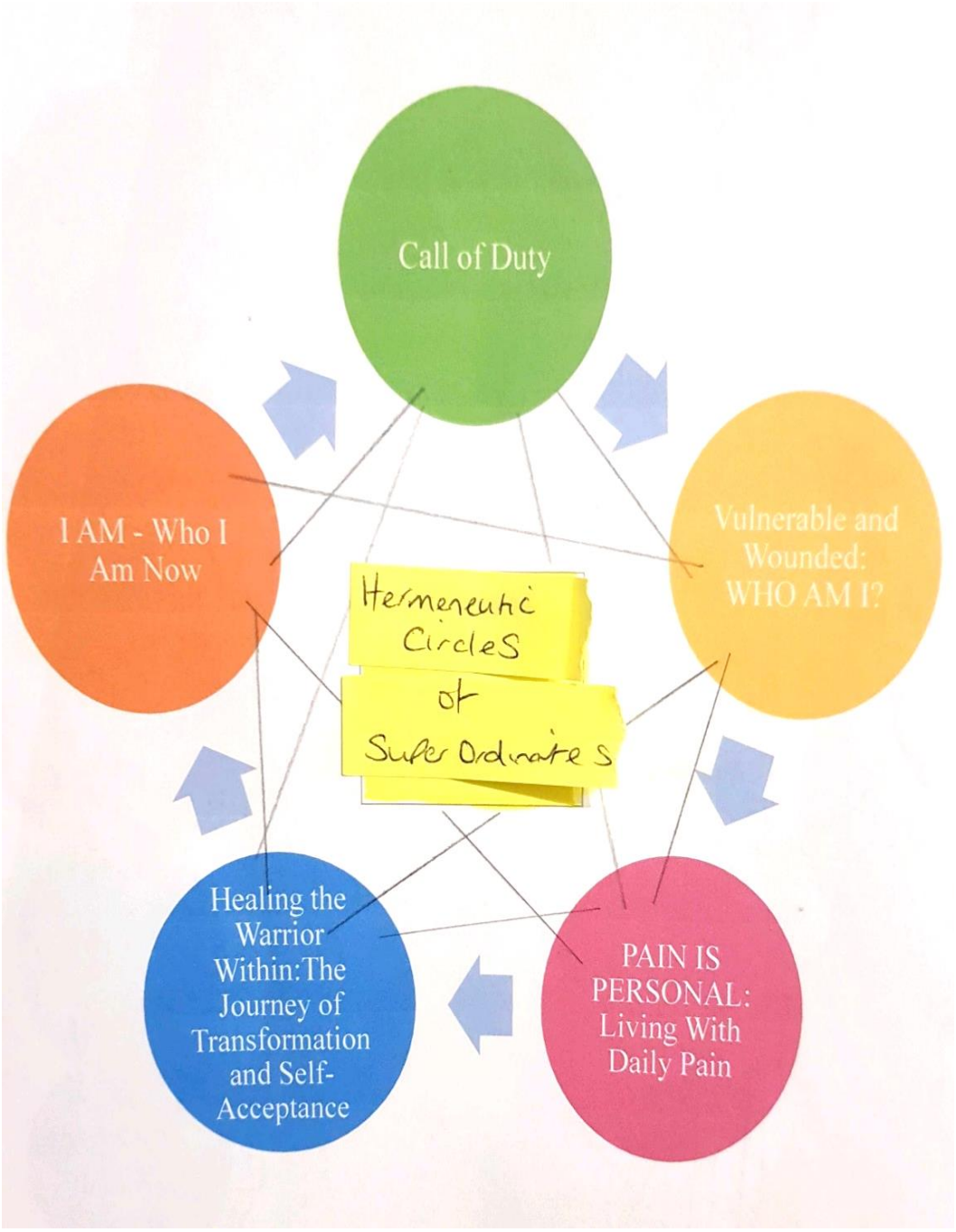


Figure 15: Hermeneutic Circle- Superordinate Themes

A Phenomenological Study of the Chronic Pain Experiences of 21st Century Combat Veterans Injured in Conflict.

Subordinate & Description	Themes
CALL OF DUTY Call of Duty represents the deep calling to service and purpose, living by the military code of conduct, sense of belonging, understanding the realities of conflict and the ultimate selfless sacrifices taken to serve; that include life changing injuries.	• Personal Choice • Realities of Life Changing War Injuries and the Personal Sacrifice
Vulnerable and Wounded: WHO AM I? Looks at the impact of life changing injuries on veterans, the feelings of failure, abandonment by the military and medical services, the complete overwhelming experience of being vulnerable, isolated and alone. Total loss of control and identity. Feelings of dependency on medications and realisations that no one is invincible. Finding the strength to overcome the pain and feelings of vulnerability. The importance that supportive relationships can make during this process of grief of self.	• Feelings of Failure and Loss • Mentally Broken and Physically Broken • Fearing Pain itself- dependency on pain medications • Self-Awareness of the mind/body experience of pain • Out of Sight, Out of Mind -The Abandoned Warrior • Importance of supportive relationships
PAIN IS PERSONAL: Living with Daily Pain Personal journey of living with pain every-day, looking at the challenges of not being able to do what you did before, learning to understand triggers, strategies use to cope, how pain effects daily life and the impact it has had on social life. Finding some understanding around pain to be able to manage self.	• Understanding the triggers of pain • Searching for strategies to cope • Effects of Daily Pain on Self • Man Up

Figure 16: Final Superordinate Themes 1-3

Healing the Warrior Within: -The Journey of Transformation and Self - Acceptance The journey of finding one-self again within the recovery journey. Looking within for self-acceptance and the transformation of the new self. A new sense of awareness of self and the power of using escapism for self- pain management. Finding a new sense of purpose in life.	• Escaping the reality of pain • Holding onto the core sense of self • Embracing a sense of changed self • Finding a new sense of purpose
I AM – Who I am now The transformed self, who has learnt that it is an ongoing- emotional and physical, daily battle to manage pain and injuries. Using the military mindset and standards to maintain the best version of your new self. Taking own responsibility for your own recovery and health.	• The Rusty Old Motorcycle: Maintaining the best version of self • Taking Ownership of Self • Personal Resilience: Fighting back with resistance • Life into me Again: Reigniting a sense of gratitude.

Figure 17: Final Super-Ordinates Themes 4-5

4.5.3 Applying Rigour to the Research

Throughout the design, conduct, and reporting of this study, commitment was given to the importance of developing rigour and best practice, which is particularly important within assessing the quality, subjectivity, and creativity within any IPA approach (Yardley, 2000; Whitmore *et al.*, 2006). The simplistic yet robust broad principles by Yardley (2000) was used to explore validity and reliability within this study around the process of rigour, which included '*sensitivity to context', 'commitment', 'transparency',* and '*coherence'*. These

broad principles also signified that within good research practice, each principle has a connectedness, within the whole process of rigour, similar to the hermeneutic circle.

The principle of '*sensitive to context'* involved collecting data and analysing results that are based truthfully around the participants lived experiences, the research question, and the study aim. It particularly highlighted the importance of underpinning each step that was taken in this research process and journey, working journals, notation, feedback from supervisors and record keeping. To search or look back through each stage of the study, and how the study has continued to evolve, grow, and develop through the participants experiences. Remaining as '*sensitive to context'* as possible was important to the researcher being aware and mindful of any personal thoughts or bias that may have come to mind or influence the evolvement of the study and through the analysis process. Therefore, bracketing, reflexivity and supervision were used to manage this.

Yardley (2000) suggested that the principle of '*commitment*' can be shown through a number of ways. In this study, it was found to be used in three distinct aspects, firstly, '*commitment*' to the participants through being mindful of the ethical considerations, remaining sensitive to context and participants wellbeing. Secondly, '*commitment*' to the study process and every step of the research design, sampling, data collection to analysing the findings is done with thoroughness and completeness in a flexible but systematic approach. Particular '*commitment*' was given to data collection process, especially with the interviews, being mindfully aware to bracket own thoughts and feelings away from each interview to be full present. Knowing when to probe deeper and when to create space. This art of interviewing fully, took time, full awareness and also supervision. The analysis process in itself also took complete full emersion, engagement, moving beyond the word, sentence to the whole, exploring thoughts, seeing answers, searching for connections, finding meaning in the

whole. Documenting each part of these stages through images, notes, journals, reflections, and supervision.

The third aspect of the '*commitment'* principle that was used in this study, was of the self, through time, dedication, and willingness to learn, grow and evolve as a researcher and individual. This was managed through supervision, reflexivity, and also using the power of space and time to process information, to step back from a problem, when solutions cannot be seen at that moment, but with space and clarity, other solutions become clearer within the bigger focus of the study.

Maintaining '*transparency and coherence'* throughout the research journey was used through documenting each process, record keeping, journals, notation, reflexivity and within the writing up of each process that was taken. The aim was to also keep notation simple and clear, to make the research journey easy to follow and easy to replicate within a duplicated study or using the same procedure. Exploring each step by step through description and discussing any changes and its outcomes that were made during the study. Furthermore, trying to make it easy for the reader to understand the changes made, the development and how it evolved, be able to highlight the significant gaps in literature, and how this study can contribute to knowledge.

4.6 Ethical Considerations

It was particularly important when conducting a study that looks at the lived experience, that the safety and wellbeing of participants is foremost (Beauchamp and Childress, 2013). In October 2013 ethics proposal was submitted to the Faculty of Health, Sport and Science Ethics Committee for the original PhD phase 1 interviews - Combat veterans living with chronic pain (Appendix 5). With the change of design to IPA, a second ethics proposal was submitted in March 2016 and accepted in June 2016 (Appendix 5).

The importance of beneficence in this study is to always act in the best interest of the participants, which includes being entrusted with their lived experiences, and their physical and mental wellbeing. Furthermore, it was crucial to create research that can provide the participants with the opportunity to share those lived experiences, providing them with a voice and the safe space to feel listened to. The participants in this study felt that their aim by participating in this study, was to feel that their personal experiences were not in vain, that will not go forgotten. That their experiences could help make a difference through research and help other veterans that are struggling with life changing injuries who are unable to see through their daily pain. The importance of beneficence within the design of this study, meant that the findings could help inform best practice and further recommendations around veterans' health, wellbeing, and long-term care needs, which in turn will also provide a wider benefit within the present and future veteran population.

Within the moral meaning of beneficence and to act in the best interest, when designing this study, the impact of non-maleficence, to do no harm was also explored. Under the ethical research guidelines, due diligence, and the professional nursing standards of the NMC code (NMC, 2018), safeguarding vulnerable adults was included. Through the design of the recruitment process, particular significance was given to the inclusion and exclusion criteria to cover health and wellbeing vulnerabilities. Which included mental capacity, vulnerable adults, and ability to communicate needs. Further considerations around vulnerability were taken around the preparing for interviews**,** interview process and a welfare call were included post interview as a more thoughtful and ethically responsible good practice. This approach of using post interview welfare calls was used by researcher Reissman (2007). Reissman and Mattingly (2005) used it to ask if there was anything further, they had wanted

to add in the interview. But indirectly it was to enquire if they were okay and if there were any concerns. Debrief information of charity support groups were also offered and available including the charity PTSD Resolution, that offer fast track mental health support was also offered to each participant.

Under the non-maleficence principles, confidentiality and personal information was a key importance around participants that could be identifiable. Within the military wounded community, there were only two medical hospitals (Selly Oak and QE Hospital) being used for medical transfers at the height of both the Iraq and Afghanistan Wars, and one rehabilitation hospital, Headley Court. The risk of participants being identified by their service history and injuries by other veterans within the wounded, injured, and sick veteran communities was high. Therefore, personal confidential information of participants, military service history, or information that may identify participants was anonymised. Furthermore, military classified information of operational tours was not discussed or documented in the interviews under the requirements of the Official Secrets Act (1989), which also had no necessary relevance within the aims of this research study.

The Medical Research Council regulations around General Data Protection Regulations (GDPR): Consent in Research and Confidentiality (2019), and the Declaration of Helsinki (2013) for further ethical and research governance guidance was used. Using these guidelines, all other identifiable data was also anonymised. The digital audio files were stored on a password protected folder which is only accessible to the research team. The original audio files were deleted from the digital recording equipment. The transcripts were anonymised as part of the transcription process and stored on a password protected computer. All data collected was adhered to under the guidance of the General Data Protection Regulation (2018), and the University Data Protection Policy. Therefore, stored

data was stored confidentially, with no personal information attached. Paper copies of any information was stored safely in locked storage, but also double shredded under the guidelines of confidential waste.

The importance around personal information, also highlighted the role of autonomy in this study. Which included informed consent and ensuring that participants feel supported in making informed decisions (Beauchamp and Childress, 2013). Therefore, within the development of the interview schedule and preparing for interviews, consideration was taken to construct an information pack for potential participants for this study. Which included, a covering letter about the study, information and guidance leaflet, and consent form with a stamped addressed envelope (Appendix 6). Information packs were important for participants to make informed choices, that also discusses consent and the right to withdraw. In order to provide informed consent, participants were required to sign the relevant consent forms, acknowledgement, and provide verbal consent to partake in the interview and on the recording.

The leaflets were designed to be easily readable that was clear and precise about the study for the participants to make informed and the rights decision to participate. The information was written in a simple format that is easy to read and understand. Full contact details of the research team were provided. Potential participants could discuss the study further with the researchers if they required further information or clarity about the study. It also included how the study has been reviewed, if there were any concerns, wished to speak to someone who is not a member of the research team, or wish to complain formally to the university (See Appendix 6).

Participants were given personal space and time (one month) to make sure that they had the opportunity to read the information fully and to decide whether participating in the study

was also personally right for them. With the change of PhD topic in 2016, the original participants were sent a new letter to inform them of the change in PhD design and focus, with an information leaflet about the study and to consent for their original interviews to be used within the new study (Appendix 7).

Participants were contacted before each interview to not only gain rapport and trust, but to also go over any anonymity concerns around consent, and the right to withdraw at any point of the study. This process was also re-addressed at the beginning of the interviews, and post interviews during the welfare call.

All participants were treated fairly without discrimination or by giving any preference to specific participants. The justice principles also provided an ethical overarching, umbrella over the principles of beneficence, nonmaleficence, autonomy, therefore providing the right to areas such as privacy, personal confidentiality, correct information, informed consent, and the right to withdraw, which demonstrated fair equality and respect for the participants (Beauchamp and Childress, 2013; and Human Rights Act, 1998).

4.7 Researcher Reflexivity

Using reflection within the wider research journey provided greater understanding to the thought process, analysis and working interpretations. Field notes and research journals were kept as a log from the beginning of the research journey. Reflexivity is an integral part of the research process, being able to give yourself space to process information or knowledge, before reacting or responding, helps you to become a more aware and reflective as a researcher (Lipp, 2007).

In the process to answer the research question, the participants own words are analysed through an interpretative lens. Whilst the researcher's thoughts or emotions are bracketed

and interrogated through a critical reflective journal. The key significance of reflexivity in IPA, is the ability to use bracketing of the self and self-focus away through journaling and reflexivity, to be able to fully focus on the experiences of the participants. Figure 18 is a personal process that the researcher developed and used during this study.

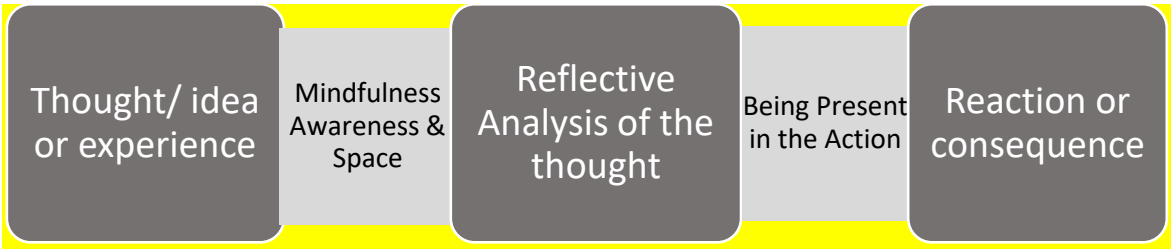


Figure 18: Reflexive process

Through observation, analysis, and interpretation there also an opportunity for inquiry through reflexive analysis. It was important to look at the core influences and reasons through-out the study, to re-examine the question, the phenomena, the method, and the emergence of information whilst doing this. Much is gained by looking as to why choices have been made; choices around the research itself; the purpose of the research; the focus around the question and the analysis process. In this study, self-directed reflexivity and journaling was also used as a personal tool throughout the research journey. Particularly through the processes of analysis, findings and discussion were particularly challenging where reflection particularly helped to manage creativity, emotions, and feelings around '*critical moments*.

4.7.1 Living the Pain Experience

My original thoughts whilst writing the PhD was not to include my own personal experience of chronic pain. To keep all information professional; but after joining an online pain research symposium, the Professor and Director of the research symposium (CIMVR, 2020), led me to realise that my own experience of pain was just as valuable as a researcher and to

the research journey. '*To experience the meaning of pain itself, is a gift that many will never have to endure…it's a powerful tool to have experienced it when you are researching the lived experience of pain in others.* Instead of hiding my journey, I decided in October 2020 to embrace the lessons and moments that I have learned from it. Therefore, I have included some of my extracts from journals that are the most powerful and the most insightful that were also part of this PhD journey.

4.7.2 Thinking and Working Reflexively

During my own experiences of living with pain and engaging with treatment, I was mindful that I was completing interviews with veterans around their pain experiences. Therefore, in a meeting with my supervisors we discussed managing the raw interviews of participants, but also my own experiences of living with pain. I made the personal choice to step back from the interview process and study for a few months, because I did not want my own emotions or pain, to impede on the study. At the time it was my own way of bracketing the self, from the participants raw experiences of pain. It was a tough decision to make at the time, but on reflection that the study was the participants words and experiences. Therefore, as a researcher ethically and morally I felt a duty to protect their journeys from being absorbed within my own. By stepping back and doing that, I knew that when I went back to their interviews, I was engaging with their experiences and not my own.

Listening through the interviews and read the transcripts, at times I felt protective over these participants experiences…but also elements of self-doubt about whether I am the right person to complete this study. Reflective bracketing from within the IPA process was adopted in its truest sense. Strategies to address my own experiences of the phenomenon included taking some time for personal development around the focus of self-doubt. Exploring the work of Brown (2017) enabled me to consider my role in relation to the

analysis process within an IPA framework. Being mindful of my role as a researcher and someone experiencing pain enabled me to work through the analysis, using a reflexive journal to document my experiences during the analysis phase (Barry and O'Callaghan, 2008).

From the beginning of the analysis journey, I found reflective writing and journaling particularly important. As a natural empath, I am mindful and careful not to take on the personal emotions of others. Especially when it comes to being submerged with raw personal experiences of participants.

4.8 Conclusion

The IPA guide by Smith, Flowers, and Larkin (2009) was used as a flexible tool to develop best practice, quality research, and the role for creativity. This methods chapter explored the designing, conducting, and reporting of this study, focussing on the process and the research journey that was taken to conduct the study. Importance was given to the research design, data collection, sampling, and participant's process. Followed by data analysis, rigour, ethical considerations, and researcher reflexivity.

Chapter Five: Findings

5.0 Chapter Five: Findings

5.1 Introduction

The research question remained core to the analysis process and how participants themselves sought to find meaning in their individual experiences. This chapter briefly talks about the participants and then explores in detail the five superordinate themes: Call of Duty; Vulnerable and Wounded: Who Am I; Pain is Personal: Living with Daily Pain; Healing the Warrior Within: The Journey of Transformation and Self- Acceptance; I AM - Who I am now; and twenty sub-themes that were identified through the IPA analysis process (Appendix 8).

5.2 Participants

The ten participants are 21st Century veterans that have sustained battlefield (BI) in Iraq and Afghanistan conflicts- one female and nine males. The participants served for the UK Armed Forces, from all three branches of service: British Army, Royal Navy/ Royal Marines and Royal Airforce; and the elite special forces. The participants were commissioned and non-commissioned ranks, from Wales, Scotland, England, Ireland, Fiji, and South Africa. All were medically discharged due to their life changing battlefield injuries (BI), that were sustained whilst serving in Iraq and Afghanistan.

To maintain the confidentiality of the participants in this study, all names have been changed, with ranks, conflicts, service branch and service history removed. Only the most significant injuries will be included, however physical injuries that were sustained but not limited to included limb loss, nerve damage, tissue, and muscle damage, burns, organ failure, TBI, mTBI, neurological conditions, paralysis, spinal, and neck injuries, maxillo facial, hearing loss or tinnitus, eye damage causing sight loss, significant dental damage, multiple fractures, imbedded shrapnel to both the body and head. With secondary medical complications such

as pain syndromes, severe chronic pain, phantom limb pain, non-healing wounds, MRSA and other multiple micro-organism bacterial infections, oesophageal damage from intubation, sensory damage, PTSD, other mental health, auto-immune sensitivity, vascular and lymphatic conditions, cardiac and respiratory. Table 2, provides an overview of the study participants and their primary injuries.

Table 2: Study Participants

Molly **Injuries Sustained:** Significant spinal injuries whilst extracting wounded soldiers whilst under enemy fire, from an armoured vehicle that had come in contact with an IED. Was repatriated under heavy sedation. Due to her injuries Molly has endured multiple spinal operations, with long term complex spinal damage, and complex chronic pain syndromes. Molly continues to use multiple high levels of pain medications to manage daily pain, with a permanent spinal stimulator surgically embedded. Suffers with frequent infections and poor wound healing.
Jimmy **Injuries Sustained**: Explosion caused by a rocket propel grenade (2-4 metres away), subsequent shrapnel damage to right and left thighs, severe secondary shrapnel damage to multiple areas. Significant damage to face and mouth from machine gun. Suffered a cardiac arrest from initial blast and was blown 30ft, from a compound roof. Significant life-saving treatment and surgeries was given to stabilise Jimmy's condition, before being repatriated back to the UK via critical care. Received weeks of intensive care, with burns and plastics management. Jimmy has life changing injuries and lives with chronic pain. Dependency on strong pain medications.
Dan **Injuries Sustained:** Received three gunshot wounds, from an ambush. Two shots to right arm, one to lower right leg. Multiple surgeries undertaken before repatriation via critical care and ongoing repair surgeries for life. Needed weeks of intensive care. Lives with full paralysis, significant nerve, and chronic pain. Tries to manage without medications, unless absolutely necessary, due to experiencing medication addiction and dependency in the past.
Matthew **Injuries Sustained:** Roadside bomb detonated and tore through an armoured warrior (vehicle). Tore through thigh and leg. Significant shrapnel injuries and burns. Was lucky to be found by a medic, due to being covered by decapitated bodies part of other dead soldiers. Was barely alive and breathing when found. Significant blood loss. Needing multiple life-saving surgeries and lower limb amputation before repatriation via critical care. Needing weeks of intensive care. Matthew experienced medication addiction and due to that tries to now manage his daily pain without medications, unless absolute necessary.
Chris **Injuries Sustained:** During a heavy attack on the unit, Chris was hit by a PKF heavy machine gun. Got hit in the chest. Went through an area of the chest that also severed the brachial artery, severed nerves to the right arm and shattered the scapular. Suffered with extreme blood loss. Was also shot in the foot. Needed 13 operations, grafts, and transplantations at role 3, before being repatriated via critical care. With further operations needed during recovery. Now living with paralysis of the right shoulder and arm. Struggled with pain management and medication addiction. Now only uses high level pain medications when absolutely necessary.

Brad **Injuries Sustained:** Was on foot patrol when blown up by an IED. Explosion went off between the legs, removed left leg at the knee, severe damage to right leg. Significant damage to left arm which was removed at the elbow, significant shrapnel injuries, severe blood loss and severed limbs. Brad received emergency operations before being repatriated via critical care for further surgeries. Daily pain is indefinite now. Brad tries to manage the pain without moderate medications, due to a medication addiction during the initial years post injury.
Jason **Injuries Sustained:** Came into contact with a pressure plate detonator buried beneath the ground. The blast wave and shrapnel blew Jason into the air, before smashing his body to the ground. Significant multiple shrapnel damage with significant burns. Classed as dead while being casevaced from theatre. Needed emergency surgeries at role 3 and intensive care for the catastrophic amputations needed to three limbs, before being repatriated via critical care. Significant amount of pain medications and some medication addiction was developed from this.
Andrew **Injuries Sustained:** Was shot by an enemy sniper in the spine. Leaving significant paralysis of the waist down. Medical teams struggled to stabilise Andrews unstable spine and spinal cord, due to further complications with shrapnel wedged in the spine itself. Long term issues with nerve pain needing an assortment of pain medications and spinal stimulator to manage daily pain.
Lee **Injuries Sustained:** The convoy was under RPG and gunfire attack and the vehicle that Lee was travelling in, hit a crater that had been prepared by insurgents with soft sand, shrapnel, and nails for an IED attack. The weight of the vehicle impacted the crater and the vehicle fell 8ft into the hole and flipped. Lee was flown into the air with the main machine gun. The machine gun and other military gear, ammunition, on landing, crushed Lee against the ground. Suffered complex spinal injuries with concussion/ mtbi. Lee lives with a long- term unstable neck injury, chronic pain. Lives on a combination of high-level pain medications and needs physical care support from his partner.
Jon **Injuries Sustained:** Jon was caught in an RPG explosion, that caused significant primary and secondary blast waves. He suffered significant burns in multiple areas of the body and face, traumatic brain injury. Jon was repatriated via critical care, after multiple surgeries, and ones to relief pressure within the brain. Struggles to live with chronic pain syndromes. Pain management is difficult and struggled with medication addiction. Now tries to manage on a low level of daily medication management, but environmental temperature changes can significantly impact being able to leave the house.

5.3 Themes

This section explores the five superordinate themes: Call of Duty; Vulnerable and Wounded: Who Am I; Pain is Personal: Living with Daily Pain; Healing the Warrior Within: The Journey of Transformation and Self- Acceptance; I AM -Who I am now; and the twenty sub-themes that were identified through the IPA analysis process.

5.3.1 Superordinate Theme – Call of Duty

This superordinate theme represents how participants had a deep calling to military service and how this gave them a sense of purpose. Participants were fully aware of the ultimate sacrifices that were made with experiencing life changing injuries.

This superordinate theme is underpinned by two subordinate themes which are: Personal Choice; Realities of War Injuries and the Personal Sacrifices made

Personal Choice

Personal choice is a sub theme that was identified as a 'life calling' that is far more powerful than the participant themselves. This meant that the military route was more than just a career decision or a job to the participants, but a thought-provoking conscious decision based on personal belief, emotion, and choice, to make a difference in the world.

> *" there was no way I could sit there and keep saying thank you to these guys who are going out to places like Afghanistan, and Iraq trying to keep us safe as possible here, just by saying thank you or by giving money to charity, the best way to thank them is to join them and try and contribute with them"-(Lee)*

For Lee in particular, the conscious decision to change career came from having the experience of being around serving personnel that had already seen conflict. The personal impact that it had on Lee was the meaningful deep-rooted need to contribute to their cause.

The cause being the global war on terror. For him joining the military was a personal choice and his way of showing a sense of respect to those serving and repaying gratitude to those who had made the ultimate sacrifices. Thus, creating a real sense of mission and life purpose.

Personal choice also identified that even when participants leave the military on self-discharge, the call back to duty and having a sense of purpose is the most powerful and spiritual life force. Jimmy in particular did not realise the impact the military created on sense of identity and purpose, until he left the corps for 2 years, but made the personal choice to return to active duty.

> *"Uh, I joined up in 2000 and uh, and left in 2002. I then re-joined in 2005 and left in 2011, September….cos I had a brief respite in between"-(Jimmy).*

This experience was also identified by Jason and Molly after sustaining life changing injuries. Being part of the military is more than just a vocation, but about serving with like-minded, highly trained individuals that you trust with your life, and develop life-long bond that most civilians have never experienced. For Jason and Molly, the implications of being injured meant that continuing to serve, would be a difficult challenge and a decision that would inevitably be made by the military. But, for Jason and Molly to continue to serve even with physical injuries provided structure, standards and focus that were vital to their everyday life, wellbeing, and recovery. Thus, continuing to bring a sense of purpose, identity, and the sense of belonging.

> *"Still being part of the corps, which is my extended family and finding a way that I could maintain that. It gave me structure, standards, and focus*"- (Jason)

> *"8 months later got my-self fully fit, got myself back to carrying weights, running, fully fit for deployment"- (*Molly)

Many participants feared the long-term impact of medical discharge, which went against their personal choices of continuing to serve with life changing injuries. This military outcome heightened the experiences of failure for not completing full service, guilt for leaving comrades in conflict zones to carry on the mission and anger for leaving service too soon.

> "*Ah just Afghanistan*"- (Dan)
>
> *"Uh, I done Iraq, Afghanistan, um Northern Ireland and Bosnia and that was it"*- (Jon)
>
> "*Was kind of interrupted by me having my leg blown off"*- (Matthew)
>
> *"Op Herrick 11 was my first tour where I was sadly injured in that. Pretty much put a stop to my physical career"*- (Brad)

Participants personal choice to serve in the military highlighted a core sense of purpose, identity and belonging to a cause greater than themselves. Through life changing injuries, medical discharge was not an option for most participants which led them to experience deep emotional and psychological feelings of guilt, failure, and anger for leaving comrades to continue serving. The realities of war injuries and the personal sacrifices made from making these personal choices to serve is the next sub theme highlighted.

Realities of Life Changing War Injuries and the Personal Sacrifice

Participants understood that when answering the call to duty, personal sacrifices are sometimes made. Those sacrifices include significant risk of sustaining life changing injuries, in particular when faced with highly dangerous deployments such as Iraq and Afghanistan.

A level of emotional desensitisation was identified when participants were talking about the personal sacrifices that they made to serve in harm's way, and the reality of experiences life changing war injuries. A personal detachment, from expressing their own feelings and emotions around the incidents and injuries sustained. This meant having the ability to talk about the incident and injuries in a very descriptive and matter of fact way, but without the experience of emotional attachment when re-experiencing memories of the event. The impact this had, was a form of mindset control of the reactions of the incident, meaning that it could be part compartmentalised as a form of personal survival. Survival being a form of resilience and a coping mechanism of past and present experiences of pain and psychological trauma.

> *"the roadside bomb detonated, and it was shape charger tore through the whole of the vehicle and It tore through my seat and through my leg. Quadriceps exiting through my right knee. Um sorry through the hamstring and exit through my right knee. Uh was left with reminisces of the quadriceps in my buttocks. Um was conscious throughout all of it part through the point where the soldier's head that was sitting opposite me was catapulted forward and knocked me unconscious with his helmet and basically his head. I came to and lifted that off me and lifted his remrance off me and sat up and grabbed what was left of my thigh and couldn't see at this stage. I was already in the full state of shock and vision and very quickly lost movement of all body parts uh couldn't speak, couldn't see and all I could do is hear"- (*Matthew)

> *"I was the most seriously injured you can be without being dead. The warhead that blew me up had enough power to demolish a building. You can imagine what it did…looked like a scene in The Terminator... My both legs and right arm were gone. Hoofing, I thought sarcastically to myself"*- (Jason)

> *"an explosion caused by a rocket propel grenade. Uh, that took out me and my mate. It exploded approximately 2-4 metres away on a compound wall, uh when I was on the roof. The blast and the subsequent shrapnel took away the majority of my right thigh, a fair percentage of my left thigh. Uh, secondary shrapnel damage to, uh my upper torso and damage to my right forearm and from what we can piece together from where I was holding the machine gun to my face the sights took out three of my teeth"*- (Jimmy)

For Molly, the significance of personal sacrifice was associated with serving personnel selflessly putting themselves in harm's way. For the participant, the priority was to support from a front-line capacity, providing critical medical support. Fully respecting the lives of others above her own. The implication of this was a sense of invincibility around own personal sacrifice in the line of duty.

> *"I received a spinal injury um whilst I was actually working as a paramedic on the front-line um that occurred while I was extracting a soldier from an armoured vehicle that got blown up but because of the nature of my job. I continued to work for another 10 days until it got to the stage where my own injury became so bad that they had to stretcher me off the back of a Chinook and then I got casevaced directly home from there um straight to Headley court where I stayed for 3 months, um couldn't weight bare, couldn't walk couldn't do any -thing"*- (Molly)

The experience of having to be stretchered by her own team from the chinook was one of embarrassment becoming a casualty herself, self-loss of control over the incident, having to leave her colleagues behind and guilt for not finishing her tour of duty. In turn, creating a real loss of purpose and abandonment of self and others.

For Jason maintaining calmness and the safety of his colleagues was his first priority, regardless of just losing three limbs. For him thus was a way of retaining some self-control over the situation and the realisation of what had just happened. Feeling personally to fault and extremely embarrassed for being blown up. Feeling extremely vulnerable but somehow finding the inner strength to focus on the mission at hand, for the safety of others.

> *"newest recruit was shaken up. I was able to tell him what he had to do. To start his mine clearance drills and to hurry up. Some of the boys hadn't long come out of Marine training and now they were in a middle of a war zone witnessing this shit. I was embarrassed to have put them in that position"- (Jason)*

Personal sacrifice was not only significant to Molly and Jason, but the reality of such life changing injuries, for most participants also, having to face the significant secondary impact of bacterial infections was identified. To them, the infection was another reminder of the severity of the injuries sustained, the pain and the long recovery road ahead. Thus, creating a far more personal and a new battle of self recovery.

> *"I had quite a few things like a bacterial virus. Uh from being in intensive care"-* (Dan)

> *"Um, I had um I had MRSA quite a few times as did every single person um at Selly oak and Headley court did as well"-* (Jon)

> *"I had MRSA and all that stuff further to the operations, so I was such a high risk. If you talk to any of the boys that have had sphincter bacter infection the experience is shocking. Especially if it causes bowel issues with it"-* (Jason)

> *"Uh, I got a sympter-bacter when I was in the desert, as under casualty extraction and I was dragged as we were under heavy fire so there was a lot of dirty sand. But they treated the bacter when I was in hospital"- (*Chris)

Participants also continued to have further complex medical problems which again highlighted, the realisation that the injuries would be lifelong. Meaning that participants also started to question the true worth of their personal sacrifice during conflict and whether it was worth the extreme pain, secondary problems, and PTSD. Thus, led to participants feeling angry, frustrated towards self; and grieving the person they once were before the injuries.

> *"Uh then I had numbness in my right arm- sort of caused problems with things. Uh, and sort quite lot of pain as well and chronic pain"*- (Dan)

> *"I have had a persistent cough ever since for the last six years. So, it was thought that where I have had relevant tubes shoved down my neck, um, obviously life support things like that it may have scratched the voice box a little bit. so, whenever I drink, coffee or tea or whenever I eat it aggravates it"*- (Jimmy)

> *"Further issues were shrapnel, burns sphinctobacter infection in the bowels and flesh from the blasts and a leaky bowel"*- (Jason)

> *"I was having a lot of pain for quite some time, a lot of nerve pain, a lot of phantom limb pain, although my limb was there just paralysed, like a lot of burning sensations, electric shocks. I have tingling pain with me even today"*- (Chris)

> *"PTSD is one of the biggest ones"*- (Jon)

> *"the acquired pain which is likely to be indefinite now"*- (Brad)

One participant Jason had come to accept his injuries, after he initially also felt angry and frustrated towards himself. For him, personal choice, personal sacrifices are the decisions you make when answering the call of duty, even if war injuries are a life changing reality.

"I was not going to be some sort of wrap hand, all twisted up and bitter about what had happened. Its military life. You choose your branch, and you take your chance…. I was alive, I was breathing, and this was my life now"- (Jason)

5.3.2 Superordinate Theme – Vulnerable and Wounded: Who Am I?

This superordinate theme looks at the participants experiences of feeling mentally and physically broken from post injuries and living with daily pain. Participants experiences around personal loss of sexuality, masculinity, and failures around the parental role after injury are captured within this theme. It also highlights participants experiences around fear, vulnerability, and suicidal thoughts, that developed from an internal battle within. Within this internal battle, participants felt the impact of the physical and mental pain, which created a high dependency and addiction around pain medications post injury. Due to this, as part of their process of meaning making and understanding, participants developed more awareness of their mind/body connection with pain. Participants experienced abandonment by the military and medical services, and the impact this had in trying to manage their pain. Due to this they realised the significant importance of having supportive relationships in their lives, during this process of recovery and adaption.

This superordinate theme is underpinned by six subordinate themes which are: Feelings of Failure and Loss; Mentally Broken and Physically Broken; Fearing Pain itself- dependency on pain medications; Self-Awareness of the mind/body experience of pain; Out of Sight, Out of Mind -The Abandoned Warrior; and Importance of supportive relationships.

Feelings of Failure and Loss

Feelings of failure and loss was a subtheme that was identified by many of the participants as one of the most physically and psychologically distressing for them. It highlighted the personal impact of life changing injuries and pain can have on identity and relationships. Participants expressed the physical and emotional impact it can have on intimate relationships and sexual performance.

Molly, the only female participant openly expressed the implications that her spinal injuries had on her personally and daily life. Significantly, for her this includes episodes of losing bladder and bowel control on a regular basis. Consequently, this affected her self-confidence, dignity, femininity, and ability to be herself.

> *"I ended up with cauda equina again and my bladder and bowel stopped working and another decompression, um discectomy"*- (Molly)

For Molly, her spinal injuries also affected the way she would normally dress, including limiting personal choice of under wear that she was able to wear. This resulted in stripping her of her femininity and sexuality, from identifying herself as pretty and feminine to just being safe and practical. As a consequence, for her this created a sense of loss of her old feminine self that caused grief and disappointment.

> *"it's changed everything, it changed the way I dress, you know. I've had to get big stretchy knickers to get on to be able to get dressed"*- (Molly)

Whilst grieving for her old self, Molly came to realise that her long-term spinal injuries would impact on not just the present moment, but even on her future chances of developing personal and intimate relationships. Thus, creating an overwhelming sense of fear, shame, vulnerability, and brokenness. To manage this, she adopts a "private person" and "learning to adjust" narrative in order to provide an emotional shield to protect her core sense of self from any further effects of vulnerability, disappointment, rejection, and heart break.

"Purely from being such a private individual um I think going through life um on your own you learn to adjust"- (Molly)

For Jason, Matthew, and Lee, in understanding their injuries and pain experiences, they highlighted the significance that they had around the need to maintain an identity of masculinity. This included the ability to still be able to be intimate with their partners and to be able to perform sexually.

"The impact of my injuries and whether everything was working properly. You know. Opiates and morphine affect your sex drive. If you are a bloke and you ever have reason to doubt your abilities in that area, you won't be smiling. Look, I could deal with losing limbs, just not that. I may as-well have died in Afghanistan"- (Jason)

"sexual relationship with my amazing partner, trial and error, having to experiment, different ways, positional. It's been an awareness journey for sure"- (Matthew)

In contrast to being the most highly trained military individuals with alpha male personalities, the impact that their injuries had for Jason and Matthew was one of vulnerability, failure, and a loss of self. Such was the significance of the impact of this they found it too embarrassing and shameful to speak about it with other comrades. Thus, resulting in further feelings of further vulnerability and being damaged.

Also, for Lee, the significance of finding himself moving from being independent to fully dependent impacted on his sexual relationship and his own perception of how he sees his identity within the relationship. Meaning that the dynamics of the relationship had changed in such a way that he had moved away from being the masculine, protector, lover, partner; to completely needing to depend on his fiancé for everything. For him this created a sense of shame, failure, loss, and helplessness.

"It affects everything, from my sex life with my fiancé. I have to be rolled off my bed by my fiancé some days" – (Lee)

The significance of these feelings meant that it had also affected the relationship he had with his young son. The difficulties of not being able to be a hands-on father and be fully present in his son's early years. Creating deeper feelings of failure as a father and loss of time and creating meaningful memories.

"I can't just be able to play football with my son anymore"- (Lee)

For participants, these feelings of failure and loss around very personal, intimate, physical, and emotional experiences. Creating further episodes of being vulnerable and further adds to the influences in the next theme of mentally and physically broken.

Mentally and Physically Broken

As identified by participants (in the Superordinate theme - Call of Duty), personal sacrifices are the individual decisions you make when answering the call of duty. However, the impact of these decisions and the life changing injuries received from military service, and their impact on day-to-day life, meant that participants experienced being mentally and physically broken. Participants Molly and Jason in particular talked about the significant times when they felt broken during the initial period of their injury. For Molly, the dreams of returning back to the front line as a paramedic, after months of rehabilitation and training back to full fitness was shattered by sustaining further spinal damage. This occurred during pre-op exercise and was witnessed by her teammates and other serving members of the military, which made her feel completely inadequate and that she had let them down.

" trained really hard... it wasn't until I was on a range where the guys were screaming at me to keep running and I thought I was and I wasn't and that's when I put my hand up……Um, you are ultimately fit for your job and within 2 days I was

taken out of action again… I lost a lot of power and sensation in my both legs…Broke down in tears….What if I go out now and everyone's lives are at risk because of me"- (Molly)

The realisation that her injuries were now life changing and could put the safety of others serving at risk, created feelings of failure, fear and vulnerability. These were feelings and emotions, that she herself did not expect to feel, or experience as a paramedic. Fully aware that her life as she knew it, and her military career were about to end made her realise that she was not invincible. For her, this was the first time in her life that she felt completely mentally and physically broken.

For participant Jason the realisation that living the standards of the marines in the face of adversity, became fully consumed by the overwhelming new unchartered territory of also feeling mentally and physically broken. For the first time Jason experiencing personal feelings of guilt and failure towards not being able to be active in supporting the safety of his team- mates, because of his injuries. Furthermore, he was overwhelmed by the uncertainty of his life moving forward and the significance that his injuries would have on his future.

"The Marines drum it into you, what they expect: determination, courage, unselfishness and cheerfulness in the face of adversity…. They could ram it. I had run out of all four, for the first time in my life……You are a marine, what a Prick, what an idiot… supposed to be the most professionally trained on the planet. I realised I had completely messed up my life and risked my team"- (Jason)

Other, participants also talked about the moments when they felt completely overwhelmed with losing control over their mind and body; being consumed with overwhelming desperation, helplessness, and suicidal thoughts. These times created the deepest periods of emotional darkness; and feeling of being completely broken as a person.

"I remember feeling at the time that I couldn't face the life on offer, and I wanted it to be over. Never waking up from this nightmare. I wished I had died in Afghan rather than live a life like this." - (Jason)

"These were desperate times….I was totally helpless"-(Matthew)

During these darkest moments, participants found themselves experiencing continuous flash back memories of being in Afghanistan or Iraq. Thus, creating further feelings of helplessness, vulnerability, lack of control and weakness. The very feelings that military codes of conduct disregard and have little place for. This meant that participants found themselves looking deep within themselves, searching for personal meaning to life and understanding, to be able to find a new sense of purpose and identity. Many having to find a deeper strength and courage within, through their personal power to fight through their physical and mental pain.

Fearing Pain Itself- Dependency on Pain Medications

Participants identified that a deep-rooted dependency on pain medications that started at Role 4 and military rehabilitation following being medically evacuated Afghanistan or Iraq. Medication was given as the main management for pain post injury. But the impact of these medications resulted in participants, losing long periods of time in their lives, memory loss and a loss of emotional and physical control.

"So, I went from fully fit to admit onto the ward and I lost 6 weeks, completely lost 6 weeks because of the medications they had me on. I don't remember any of it, uh…I just had drugs chucked at me. Lots of opiates, uh numerous drugs"- (Molly)

"I was in and out of consciousness. I was unaware what was real and what wasn't"- (Jason)

"Was initially on morphine on a pca, uh I didn't enjoy the experience not one bit, was having a lot of difficulty to articulate myself, difficulty trying to think straight, I stupidly after three weeks decided to pull myself of all the drugs"- (Chris)

Furthermore, participants experienced moments of real desperation due to the way that the medications made them feel and act, and due to this found themselves in a cycle of consciousness, medication dependency and helplessness. Creating moments of complete exasperation, vulnerability, and fear of the pain itself. Due to this, participants felt that they were just existing and surviving, rather than living and having a quality of life.

"I just had drugs chucked at me. I was on fentanyl, morphine, oramorph, you name it, I was on it"- (Molly)

*"I become sort of reliant on the medication"-(*Dan)

"I would take pain killers to alleviate that pain as soon as the onset of that pain came on, I would almost instantly pop a pill, use to use them like smarties. I used to carry it around with me all the time. I used to have oramorph. I used that for about a year and a half to two years. Used lots of it. Addictive got addictive it got to the point where as soon as the onset of phantom limb pain came, I needed to take those pills. And that started worrying me cos my mind was cloudy and there was no such consciousness about me. It was all sort of haze"-(Matthew)

"I thought, I could have taken two pills then It was like well, im still in pain, so I'll take another two and I was still in pain, and kept on going till, there were times id OD and had to go to hospital where I completely passed out ending up in A&E or with OD or just sat at home really or dribbling in front of the TV sort of thing, so yeah"- (Andrew)

> *"One of my gripes I think is that people rely too much on medication and synthetic stuff. Whereas in the beginning of your injuries I understand if its bottles of meds or injections etc, but I think you should be encouraged to come off of that as soon as possible"*- (Jason)

Matthew particular talked about how the pain medications took over his life, to the extent it became an addiction. For him, dependency required further psychiatric support and a private mental health admission to the Priory Hospital in order to wean off the dependency and find other ways to control the nerve pain that he was experiencing. As part of the treatment at the Priory, Matthew was also given support around post incident trauma. This support also helped him also face internal demons from his incident, survivors' guilt, the injuries, and the severe pain he was experiencing.

> "*The uh psychotherapist and psychiatrist. Um admitted me to the priory in Roehampton. Uh in the Priory I started to wean myself off with their help, sessions and EMDR. I started to wean myself off all these prescriptions medications. And in a period of a month. I um left the Priory on no medications whatsoever and to this date I have not taken any medications and still do not take any pain medications whatsoever*"-(Matthew)

Other participants also highlighted the impact that medication dependency had on them, and the traumatic impact that this was having on their wellbeing and daily lives. From being strong resilient military individuals, to becoming overwhelmed with pain and unable to control their daily lives. Resulted in further experiences of guilt and shame for becoming so dependent on medications to be able to cope with their pain. Due to this, most of the participants chose to come off daily medications independently, to seize back some control for themselves, and regaining some sense of ability to manage. Therefore, not seeking support and guidance from medical professionals due to previous lack of understanding

around their pain and injuries. Participants found that the journey of weaning of medications took between 2-3 years to complete. Most participants still now try to live every-day, without any medications, unless absolutely necessary.

> *"At the moment I just take over the counter pain medications, the reason for that is, when I first left Selly oak hospital, I was pretty much taking about 50 plus pills a day, there were pills for the pain, pills for the poison in my body, pills for all the conditions, um and pills for the side effects of all the pills, so the cycled continued. So, by the end of it I was taking pills, and pills and pills. This made me really, really sick. I lost about 6 stone in body weight……based on those experiences, how those made me feel, I really try to avoid taking"*- (Brad)

> *"it eventually took and took me quite a while to work my way down from taking sort of quite a lot of medication, know, I had to work my way down from over a course of about 2 years, um I worked my way down from taking quite a lot of meds. Sort of uh from stuff as strong as Oramorph and things like that, down to nothing"*- (Dan)

> *"all quite keen to keep on administering pain relief and I've seen that happen time and time again with other soldiers now. I was really adamant that I wouldn't become reliant on pain medication. Um, so I weaned myself off it without telling the doctors or the pain team. I left Selly-oak on 36 different tablets a day, a combination of tramadol, oxycontin, gabapentin, diclofenac, amitriptyline, uh um ibuprofen. Um so I started with oxycontin, I reduced the dosage down to 50% for a week, yeah, I had no idea what I was doing but thought I would just wean myself off, step by step, then if I was okay the first week, then I would get rid of the doses completely. Then I would go down to the next tier as I perceived it, in terms of how hard core the drug was, which seem to be tramadol, reduced those tramadol by 50% and came off that*

completely, then reduced dose of diclofenac, amitriptyline, did that for about a period of 6 weeks until I was on nothing. Obviously, I still get nerve pain, I still get nerve pain now. I was shot in 2007 and it is 2014 now, so the last part for me is managing"- (Chris)

For all participants, the experience of medication dependency not just affected how it made them physically feel but also affected their psychological health. Jason and Molly openly talked about the negative impact that the medications had on magnifying past memories and emotions of when they were injured and further flash backs of being back in Iraq or Afghanistan. Participants identified having further feelings around loss of control, vulnerability, shame, and guilt. Afraid to admit that they were struggling and not coping with the realities of their now daily lives, and that they were no longer the same person. Making it difficult to share these feelings and emotions with other comrades, friends or loved ones.

"It was 18 months after I decided to get rid of all my pain medications. Was still experiencing daily phantom limb pains. I just didn't like the way it made me feel or react. Couldn't think straight, was totally paranoid. I wasn't coping and affected my injuries, memories from Afghanistan and how I treated my family. It really, really screwed up my brain. I just had to stop taking them, decided to stop"- (Jason)

"didn't work at all apart from making me psychologically damaging me because they made my post-traumatic stress uh exasperated, uh"-(Molly)

Through this journey, the significance around the development of personal awareness, and the internal mind/body connection around managing their pain was identified by participants.

Self-Awareness of the Mental /Physical Experience of Pain

The initial time period after being injured, found that participants were seeking and having to learn more about themselves to try and understand their experiences and coping with daily pain. Pain medication dependencies found participants experiencing more awareness around how the mental and physical parts of the self were deeply connected.

Through this, Mathew found that using visual thoughts and descriptions helped him to better understand his pain experiences and found it an easier way for him to explain pain to other people. To help them understand mentally and physically what the pain experience may feel like. Providing a new way of gaining a level of personal control and understanding over the pain itself.

> *"Um, the phantom limb pain was incredibly scriptive in my own mind so I could imagine what would cause that pain. Um so far example taking a steak knife and stabbing your foot repeatedly um or, holding your foot out of a moving car putting it down on a tar road while driving at high speed. Those are the sort of scriptive pain sensations that I felt on a daily basis"-(*Matthew)

Like Matthew, Jason found that by managing his thoughts and feelings, that he was able to better manage his physical pain experiences. This giving him more self-control, which also helped him to develop further resilience and understanding to pain itself. Meaning that he was aware of how much physical and mental pressure he could put upon himself and his body. Always striving to go harder and further with treatment, and personal goals, during his recovery and rehabilitation. Therefore, pushing past the bodies, natural mental and physical pain barriers.

> *"as my body is connected to my mind. I think that's why I don't get a lot of pain now, is because I've learned to control my mind and my thoughts"*- (Jason)

Molly in particular found that her physical pain experiences were also impacting on her mental wellbeing. Which in turn created further complex post-traumatic stress symptoms and significantly affecting her experiences of fluctuating physical pain levels.

> *"Uh I have it all the time um it reminds me of my time in Afghanistan and which there reminds me of my experiences (starts to cry) so it's a constant reminder unfortunately then as I stated it affects your mental health it's such a daily reminder of what I experienced and what I saw out there. So, it's hard to attach the two away"*- (Molly)

Due to this Molly, along with other participants found herself in a daily cycle of turmoil between pain and the daily reminders of their front-line military experiences. This meant that participants experienced periods of deep personal psychological darkness, fear, shame, and guilt which further enhanced their feelings of isolation, vulnerability, and loneliness. Their belief was that they were totally out of sight and out of mind, to the military and as a result felt abandoned by those that they considered being part of their own family.

Out of Sight, Out of Mind -The Abandoned Warrior

Being part of the military for all the participants was more than just a day-to-day job. It created a sense of purpose, identity, comradery, and an intense sense of community. But for most of the participants, their life changing injuries had separated them from this military community as they felt that the support from the military quickly reduced. So, it left them feeling isolated, alone and abandoned.

For Molly in particular, the military was her life and family for over 20 years. After sustaining life changing injuries Molly described her experience of feeling completely

forgotten, left alone and isolated. The meaning Molly generated about this was that she felt out of sight and out of mind, that she was now rejected for being unable to fix.

> *"I was left at home, um the RAF left me at home um in my house for about 3 weeks uh I didn't eat anything , I was on fentanyl, morphine, oramorph you name it I was on it. Um I live alone. No family to support me. No one came out to see me"*- (Molly)

This experience became more significant on her discharge for Molly where she felt abandoned by her own colleagues. She expressed this as it being like someone literally turning their back on you and slamming the door, never to return again. The impact of this in her meaning was that she was now damaged goods that was disposable due to no longer being of any use to the military mission. The personal implications of this were Molly being left to feel non-human, disregarded, useless and un-worthy. Leaving her in a state of mental and physical distress.

> *"The day Headley court discharged me and said that there was nothing more they could do for me I felt like someone had stuck a gun to my head and said right you are no use whatsoever that's you gone. From that point was when I felt completely abandoned…When I got discharged from the military I was just abandoned and I didn't know where to go, didn't know where to turn and I got in such a funk...I was abandoned literally. The minute they said there is nothing more we can do for you, they shut the door and I was kicked out of the military"-(*Molly)

Most participants wanted the opportunity to stay within the military realm, by being given the support and training to reskill within another field. However, experiencing abandonment like Molly, where there was no support or guidance, were also the experiences that most participants identified as a significant moment for them, at what was the end of their careers. For them, it highlighted further realities of de-personalisation, in that no matter what they

had accomplished within their careers ultimately, they were just a rank and a number. Thus, making them feel used, expired, and past their sell by dates.

> *"You know um now that we've left. Um the army, um the air force, um the navy. We kind of out of sight, out of mind"*- (Jon)

> *"once they decided there wasn't anything, they could do for me, except for pain management, it seemed like all I was given was my tablets and sent home…. They had already told me at that point, that it was going to happen and that was it…"Uh, I have to admit I am still, very angry at the way things went, now, um am really annoyed that they couldn't find another role for me within the air force"*- (Lee)

Participants continued to feel "out of sight, out of mind" due to the significant gap within the military discharge process and the transfer of medical responsibilities to the NHS, specialist medical teams and local GP services. Therefore, many participants were left not knowing where to find or access help and support after leaving the military. Meaning that participants themselves had to seek their own medical help and support. Making them feel that their lives had no value or significance, therefore did not warrant support, or help. That their own personal impact within the military had no meaningful reference, just another number. That is highly replaceable by someone younger, healthier, fitter, and faster.

> *" I wouldn't say it's sort of offered to me. I'd have to sort of go out and chase it*"- (Dan)

> "*There's no concerted effort to do anything to change it. Unless you physically go to them and tell them you want something done about it. Even then, you are then expected to jump through hoops, like a performing dog to get anything from them*"- (Lee)

From their experiences of having to seek their own medical help, accessing treatment within the military and NHS. Participants identified significant gaps around the knowledge and understanding of veteran's injuries and chronic pain. As a result, they identified how this resulted in further moments of not been given the right information, support, and guidance by medical professionals. Consequently, they were left feeling helpless, vulnerable, and fearful for the future.

For Lee, the lack of knowledge and understanding by military specialists, of his pain condition was impacting his daily life. The expectation from Lee was that professionals would have better knowledge, experience and understanding but instead, he was having to learn from personal experimentation, trial, and error. Thus, creating further anxiety, stress, and frustration for Lee to not know the long-term consequences on daily life that it may further cause.

> "*Not one other person in the room and this is Headley court, we are talking about where everybody is meant to be a specialist, everybody is meant to know as much as possible about their certain area, So we are talking about that there was somebody from every area with their knowledge of treatments, sitting around while they were doing this talk, they had no idea what T4 syndrome was, and if those people don't know what T4 syndrome is how are other people expected to know*"- (Lee)

For Jason, the significant experience from a meeting with an NHS prosthetic consultant at a combined military/ civilian medical hospital after sustaining 3 amputations and significant blast injuries, particularly impacted his ability to see any quality in his life. The specialists lack of up-to-date knowledge and understanding around military rehabilitation and access to innovative prosthetics, could have been the cause for Jason to end his life at that point. For him, the experiences could have in particular, significantly impacted his ability to see any

purpose or quality in his life going forward, being able to cope with pain, and giving up on any motivation to walk again.

> " *A bloke from the NHS prosthetics came to see me had no military connection I hung on every word as the professional. I was really desperate to learn what the limits of my recovery would be. He described the basics prosthetics were still made of wood. Took a look at me, that I'll never forget, and said that someone in my condition would take at least two years to walk again if you ever can. You have to accept that you'll might never ever be able to walk again. Thankfully, I never listened to this*"-(Jason)

Therefore, from their own personal experiences, participants identified significant gaps in understanding and awareness around military injuries and rehabilitation. They felt that more awareness and a wider collaborative working within in the medical and rehabilitation areas was needed to best support and manage the complex care needs of military and veterans.

> "*educating programme that's going to help civilian Dr's and nurses, any sort of health professional um understands the differences that the lads have than other members of society. Not saying anyone's better than the other but a lot of guys don't like to be a burden, you know they've had a really active full life and now they sort of dependent on people; they don't like to be dependent, so they will play down a lot of injuries and pain just so that they are not going to be a burden. Uh, a lot of people won't realise that unless they've seen the other side of it; it'll just get sort of forgotten about and not realised uh, so yeah*"- (Jimmy)

Thus, their experience of healthcare and support made many of the participants feel angry over the lack of understanding, medical guidance, and support. This was not just as a result of their own experiences but also from their observations of the vulnerability of other veterans highlighting and observing the vulnerability of other veterans.

Importance of Supportive Relationships

The importance of supportive relationships through the post injury recovery and rehabilitation journey was identified by participants as the difference between coping and not coping on a daily basis. Having the right supportive relationships made participants feel cared for, supported and worthy of love. This also helped to change periods of negativity into moments of positive optimism.

For Lee and Jason, they talked about the support they specifically had, and continue to have from their partners. For them, their partners have been there for personal care during the most challenging times. This created further realisation that the once military fit alpha male was now struggling with everyday life and chronic pain. The impact of this was that they had multiple feelings of frustration, loss of control, failure, embarrassment, guilt, and shame. Lee in particular shared this very personal experience of his fiancé having to become his full-time carer. The significance of this had an impact on his sense of masculinity, resulting in a dynamic shift around intimacy. This creating further feelings around rejection, frustration, vulnerability, feeling physically and mentally broken. Due to this, a sense that the relationships developed levels of emotional and physical detachment, to be able to cope with the impact of the consequences of life changing injuries and daily pain.

> "*basically, nurses me in my bed, she acts as my carer, she doesn't get paid for it, acts as my career sort of 24/ 7 when I'm having the really bad times*"- (Lee)

> *"The family helped me recover in different ways, especially with sarcasm. My room was full of people most days. With so much support my attitude was improving*"- (Jason)

The realities of the life changing injuries for Molly, was understood by her planned life of being in the RAF had now been taken away from her. This left her having to face up to the

realisation that she had given up on her personal relationships and having a family, to pursue her RAF career. Leaving her to experience the realisation, that she had sacrificed her personal life for her career and now being made to regret those life decisions that are too late to change. Leaving her feeling alone, isolated, and afraid. This had a significant impact on how she was physically and mentally managing the pain and daily life.

> "*Maybe if I had my own family to support me maybe my pain levels would be a bit more manageable. Maybe if I wasn't quite so isolated maybe then it would be more manageable*"- (Molly)

Supportive relationship instead came from a local Occupational Therapist who had supported and assessed Molly for aids, adaptions, to help her to manage daily living tasks.

> *"It wasn't really until the OT came to my house to assess me in my own environment to then start giving me aids uh like grabbers to pull my knickers up and handrails to help me get down and up from the toilet and extra handrails for the stairs. It was until that point I actually felt that I was being supported. So, from 2008 from my point of my first surgery 2018 to when I was discharged in 2011, I didn't feel supported at all, whatsoever*"- (Molly)

This personal experience for Molly made her realise that no matter what role you have in the military, nothing prepares you for the realities of living with long term injuries alone. The initial referral via her GP to further services created a ripple effect opening of supportive relationships for Molly. Which significantly changed her outcome to feeling once again that her life mattered, worthy of support and cared for.

> *"So, it wasn't until my local GP said to contact social services and the local OT came round, I get some support from SSAFA, and they came round and helped me fill out forms for the disability living allowance etc. which once again the military*

hadn't pointed out or assisted me with. Having those people come round made me feel cared for, made me feel supported" – (Molly)

The importance of continuing to have supportive relationships post-surgery/injury was also identified by Dan. His surgeon personally chose to make sure that Dan can access him when needed for pain and surgical management. Helping Dan to still feel important, to continue to have a level of control over own health, feeling cared for and supported.

"my surgeon, uh who I go to clinics quite regularly, uh who is a, uh NHS surgeon but who I also met through Headley Court. Um and he's done quite a few operations on me so, sort of understands my condition but it's not through his sort of, its more because more personally. He personally choses to and that's it uh he takes time out of what he's doing to makes space for me"- (Dan)

For Brad, the supportive relationship came from his physiotherapist during rehabilitation at Headley Court. Due to her understanding and experience of working with wounded personnel. Lisa was able to focus and push Brad to engage with his day-to-day rehabilitation sessions. She was not willing for him to miss the opportunity to have the best recovery, therefore did not allow him to feel sorry for himself or disengage from the routine and structure of physiotherapy. Through this dedication Brad is now able to walk again on prosthetics, be able to drive and work full time and enjoy personal hobbies and passions.

"physiotherapy had to really start from the bottom up, it went on for about two years at Headley court. Unfortunately, I had a really strict, stern physiotherapist Lisa, she was a lovely girl, she really does kick the hell out of me, for two years. And um I have her to thank for my capabilities that I have today. Because if she left me skive, if she let me sit around cos it hurts, or I didn't want to really do it again, or I felt I had gone through enough already, or I just wanted a beer and play on my x-box really,

she didn't let me do that. (Laughs) which is great, you know, I owe her quite a lot for that"- (Brad)

5.3.3. Superordinate Theme – Pain is Personal: Living with Daily Pain

The words 'pain is personal' were the ones used by all participants during their interviews. It reflected how they viewed their own pain and how they tried to live with the debilitating and distressing effects these experiences have on their daily lives.

This superordinate theme is underpinned by four subordinate themes which are: Understanding the triggers of pain; Searching for strategies to cope; Effects of daily pain on self; and Man Up.

Understanding the Triggers of Pain

Understanding the triggers of pain was one of the main key issues discussed by all of the participants. For participants from the time of injury, during recovery, rehabilitation, through military discharge, to the time of interview; trying to understand the triggers of pain had been a very lonely and personal journey as part of the recovery experience.

There was a sense of participants being let down that nobody from the multidisciplinary teams spent time with them to discuss their wounds, and how these might have an impact on their lives in the future. Furthermore, there was no support or advice about the pain that they would experience and what strategies to adopt in order to manage this. Accordingly, there was no preparation, support, guidance, information leaflets, or survival tools given to help them manage their pain when it triggered. Thus, providing them with some reassurance and support that this was part of the recovery process.

"I was never given an information pack of anything like or Uh, anyone to talk to"- (Dan)

As a result of this experience participants identified that, had they been given some education and understanding around pain, even during their initial recovery at Headley Court or by an NHS pain specialist after military discharge, it may have helped them to understand the diverse types of pain, what the triggers could be and how to manage the experience.

"*advice and education on how to self- manage things would be really useful*"- (Chris)

Helping to understand pain would definitely be an idea and how to cope with it"- (Jason)

The significance of not having guidance, support or education also meant that the challenges of daily life became a hugely different type of battle. For them, this had meant experiencing a personal every-day battle of trying to manage daily pain and still have some sense of personal control over both their physical body and mind. However, they still experienced self-doubt as to; whether some of the physical pain was in fact mental pain which led to them questioning and being concerned over their own mental wellbeing and stability.

" *Not knowing why, I was in so much pain but um about what my body was doing and why it was causing so much pain……you know find a lot of people tell you pain can be in your head*"…. -*"you never know it might actually help err to prepare pain, mentally"- (Jon).*

"I think understanding it pretty, important. It is also a metal thing you know"- (Dan)

Understanding the triggers of pain was an experience that materialised on many levels including mental wellbeing for participants. The complications around mental wellbeing and stability in combination with pain, caused many participants to become very isolated

and alone. They struggled to talk about their pain experiences with others as they feared becoming a burden to those that they loved and were within their social circles. Thus, creating individuals that were truly struggling to cope within civilian society.

> *"you know when i'm in bad pain, I become this anti -social person, and you know I continually um apologise to the wife"*- (Andrew)

> *"Um, uh sometimes it's made me a bit anti-social, you know it's sort of draining, don't really want to go out and do stuff you'd rather just sort of sit in and sort of uh, you know and not have the hassle really. Um, so guess it makes you more introvert"*- (Dan)

The impact that pain had on their everyday life and the search for trying to understand the triggers of pain became very much trial and error based on personal experience and self-learning. This process was based on need to have a sense ability to prevent, manage and avoid debilitating consequences of triggering worsening of their pain.

Participants such as Molly, Lee, Andrew, and Brad talk about prevention of pain and learning to recognise the signs or symptoms of pain as developing from within their own physical bodies. This experience being a hugely different contrast from military training and combat. Where awareness and alertness is around survival and the environment, where pain does not exist. Having to search within, learning to understand and listen to their physical bodies. Becoming more personally aware of the internal changes; and mindful of the impact that pain can create if not treated promptly further enhanced their sense of vulnerability.

> *"I tried phoning the med centre a few times to see me today as I really need to go into hospital, I'm not good, no one got back to me, I ended up calling a GP out, local GP out …Any way tried to get me collected by ambulance to get me admitted but they said cos I didn't have quarter coiner I wasn't an emergency. So, he apologised put*

me to bed and I ended up calling the ambulance myself and they almost refused …so I was like look in know the situation, I'm a paramedic, you need to come and get me. So, they came and got me. I spent a week in hospitals with epidurals etc. nothing really worked, and, in the end, they did another discectomy decompression but this time I'm left with uh nerve damage down my left leg cos it was compressed for so long and that hasn't gone away"- (Molly).

"have no idea of what's going on right underneath the surface and how painful it can be for some of these guys. Its, some of the days I am really bad, my last bad session I was in bed two and a half months"- (Lee)

"what I found out in the last couple of years, only the last couple of years um, every-time I get an elevated temperature, I am more than likely, 99% of the time gonna get in pain, and I can now sort of um pre empt, when im gonna be in pain so I can therefore go down to A&E"- (Andrew).

"pain can really bite me, in the arse a few days later, so I really have to stay on top of that. It's a discipline to try and maintain that level of wellness. But again, because these needs aren't being met by the NHS, I'm pretty much doing it on my own"- (Brad)

Managing the impact of extreme pain meant that for most of the participants, when pain was triggered, it took them several days to recover due to feelings of exhaustion. For Jimmy, his pre-injury daily routine of running up to 10 miles a day and swimming laps in a pool had been severely impacted.

"*Uh, if I go for a run now its normally about three days before I can do anything else.*"- (Jimmy)

This has led to him having to plan days of physical exercise and recovery time, around daily life, and events. However, recovery time initiated past emotional triggers of frustration and anger towards himself. In the moments of denial around life changing injuries, the use of alcohol has been used to try and continue with pre-injury fitness in combination with pain medication. Causing more long-term damage to life changing complex injuries and moments of pure isolation.

> *"use those pain killers eh, like I said co-codamol, codeine, one of those, paracetamol, anti-inflammatories. Then usually its rest and uh, a little bit of alcohol"*- (Jimmy)

A sense of isolation, personal frustrations, anger, and denial has also been felt and experienced by participants. The importance of remaining independent and mobile for these participants through the use of prosthetics is vital to their daily lives and wellbeing. From the rubbing from new prosthetics or over-active use, pain can be random, lasting for hours or sometimes days. The personal implications of this meant that participants were having to find a deep and personal strength from within to cope mentally, emotionally, and physically. But during some of these dark moments, pain triggered by the prosthetic's left participants feeling vulnerable and very alone.

> "*in the actual limb would be physical pain from rubbing; soft sores, uh pressure sores, Uh over exertion on actual limb itself and the socket. Actually, rubbing against the socket*"- (Matthew)

> *"it does kind of hang over me"*- (Brad)

> *"I literally had to learn to do everything again…. Moving two feet on the floor on my backside felt like 12 rounds with Mike Tyson just to get on the sofa, ….At one stage, I was at the point that, rather than live a life like this. Wished id had died in Afghan"*- (Jason)

The fear of pain itself, has left many participants using avoidance as a strategy in managing the triggers of pain. Memories and post traumatic experiences caused by pain itself, has left its own significant physical and psychological implications and impact on the daily decisions made by participants. For participants such as Jimmy and Chris taking the risk was not worth the pain and days to weeks of recovery.

> *"I know my own body now and I know when enough is enough and when to stop myself going any further*" – (Jimmy)

> "*I know what will make it worse, so I try and avoid it*."- (Chris)

Many participants avoided social activities outside during cold temperatures with their family and at annual military reunion events. This negatively, impacted on their social relationships with friends and family. Resulting in further feelings of isolation, segregation, and frustration.

> "*yeah, err social life, everyday activities like I say skiing or just going out. I'm a cyclist and cycling, sometimes can be quite hard for me um to get out if it's a cold day. So yeah, it does affect me quite a bit but if I can't get outside, can affect me quite a bit"*- (Jon)

> *"the extreme cold intensified it again as-well, uh and the issues. I have there is swelling occurs because of the cold and so I've got to be careful with that"*- (Chris)

Therefore, having a better understanding about their injuries and the associated pain was identified by participants as a key element to helping them with their mental ability to process unexpected pain.

So, rather than being supported they had to self-educate and as a result of how long it took to develop their own understanding the recovery journey and the ability to manage themselves was unnecessarily impeded and drawn out.

Being able to understand their own personal triggers around their pain was an important part of recovery and daily life. Part of the understanding the triggers of pain, was also how participants were searching for strategies to cope with daily pain. The next theme looks at how participants were coping with daily pain.

Searching for Strategies to Cope

It was important to understand the significant link between "searching for strategies to cope" and the close link with the sub theme "understanding triggers of pain." As identified in the "understanding the triggers of pain," participants experienced a very personal journey, using trial and error, of methods and strategies that would help them to cope with daily pain. Meaning that participants were having to learn more about themselves, their injuries, and their pain.

> *"you can have two patients with the exactly the same pain, you know the same sort of injury, um all that and each individual person will have their own way of coping with it and own way of managing it be completely different"* - (Andrew)

It was identified that medication management long term was not successful for most participants. Many participants experienced having multiple ongoing medical interventions to manage pain.

> *"Um we struggled um Doctors, consultants, psychiatrists all struggled even my um ophthalmologist struggling um to try and stop the pain"*- (Jon).

> *"Initially, it was mostly medication and then I sort of, then I started to use things like nerve glides. Um things like that in between massage, um I had a few operations as-well to relieve uh sort of tension put on the nerves by the scar tissue, and I've had a couple of release surgeries. Um I've also tried a few things like pain patches um had heat treatment as-well and tens machine for a bit*"- (Dan).

This meant that participants looked to medical professionals for guidance to fully understand and cope with their complex injuries and pain. Creating moments of sheer frustration, anger, and loss of control when this medical guidance was not given.

> *"3 or 4 years into my injury I kinda went back. and said that this pain is having a personal effect on my life and how i'm coping. I wanted something more done"*- (Andrew)

Therefore, participants found themselves looking for direction and strategies to cope with their pain, as a way of feeling and gaining some personal control. Participants talked about prevention (which was identified and explored in sub-theme "Understanding Triggers of Pain"), and personal methods of coping and riding the pain out, within their search for strategies to cope with pain.

When participants were not able to prevent their recurring or ongoing pain. Participants found themselves looking at finding personal methods of coping with daily pain. This became a journey of trial and error, of what does and does not work for them. Thus, depending also on the types of pain that they were experiencing.

> *"as long as I catch it early and feel it starting to really tighten up, I use one of the heat wraps in the microwave, and heat that up and a long with a deep tissue massage and a heat wrap. I normally keep it relatively under control. For the most part"*- (Lee)

> *"Uh my hands hurting. So, you know I may sit on it while I'm driving, uh sort of uh, sometimes if I've been out in the cold, I'll come in and uh stick my hand on the radiator or stick it in a warm bowl of water. Um what else do I do, um, I'd wear gloves if I go out sometimes"* - (Dan)

Participants found that methods of coping, is a life-long lesson of learning about themselves and their pain. Going through this process, meant that participants were having to focus on themselves, learning about their bodies, emotions, and wellbeing. Which helped with their grieving process of their injuries and adaption. Thus, creating moments of feeling back in control of life.

Riding the pain out, was all that some participants experiencing severe complex pain could do. From experience, they had learnt that the moment of pain, would eventually fade or disperse. But the realisation was, that the severe pain episodes, were random, appearing without warning, and not knowing how long they would last. Which created moments of helplessness, vulnerability and afraid.

> *"I guess I have the understanding that it will go away eventually and won't remain like that. So that would be my coping mechanisms"*- (Matthew)

> *"Um, I just say, really grip my teeth and know that it does get better. It does, uh go away at some point. Um sometimes if it keeps me up at night, uh, same thing uh, again I know I'll go away at some point"*- (Dan)

This reality for participants was experiencing the daily physical, emotional, and mental exhaustion from the pain. The personal implications for them, of not knowing when pain will hit or disperse, was impacting and effecting their daily lives

> "*I've had to learn myself different techniques to use, to try and minimise the chronic pain. But regards to what practices I put in place, it always exists, you know. There's no way around it, is there*." – (Brad)

> *"I've probably not coped with it very well in the past"*- (Dan)

> *"I get cross with myself to be honest with you."*- (Chris).

Therefore, the personal impact of searching strategies to cope was a personal journey of trial and error, of learning about themselves and pain, which impacted emotionally, mentally, and physically on their daily lives. The next sub theme "effects of daily pain on self," looks at this in further detail.

Effects of Daily Pain on Self

Pain became a normal, constant daily experience, that overwhelmed and impacted their core sense of self in respect of their identity and who they were. Meaning that the physical, emotional, and mental challenge of living with daily pain, became a real personal internal battle of control within.

> *"Pain is there all the time…So, it's part of life"*- (Molly).

Personal awareness of the physical limitations that participants were left with after injury and struggling with daily pain, meant that participants had to come to terms with physical limitations and adaptions of daily life. This meant that participants had to find some acceptance of their new selves and their daily lives.

> "*It's made me aware of limitations that obviously previously wouldn't have been noticed or wouldn't have bothered me*"- (Jimmy).

> "*there's a lot of stuff you can't do……. So yeah, it does affect me quite a bit, but if I can't get outside, can affect me quite a bit*."- (Jon).

> "*because I have to drive for work in the car at times it can be very painful for several hours, trying to adapt and find ways around it, without taking you know uh, very powerful detrimental medication. It is a very, big challenge for me, unfortunate it is an ongoing process*"- (Brad).

Around the physical challenges of pain, participants found themselves questioning their resilience and military training around managing pain; that to them was meant to protect them from experiencing any emotional or physical pain emotion. Therefore, mentally, and emotionally struggling to tolerate and accept pain, which was becoming increasingly wearing.

But the underneath layers of the choice of words used by participants, captures the raw, vulnerable emotion of not wanting to admit self-defeat, or becoming a burden to others, or admitting personal impact by still trying to find personal resistance to holding onto a sense of self.

> "*Uh I would like to deal with it pretty well but some-times it can be wearing, I guess*"- (Dan).

> "*So severe, um, and I kind of tolerate with it quite a lot*" - (Jon)

> *"Most of the time I stick my head in the sand and I just say to myself , it's not happening, it's not there and I get on with it , I just get on with it and day to day"* - (Molly)

Jon highlighted moments for him where pain overwhelmed his ability to cope bringing him to break down in tears, the reality and raw nature of his pain and how even the toughest military trained individual can be overwhelmed and consumed by pain. "Curling up in a ball" signifying the intense physical and mental impact on the participant. Creating the need to self- protect by curling into a foetal position. As a result, this bringing self-comfort, self-healing, and safety. Meaning that the core self was experiencing immersive feelings of fear, vulnerability, helplessness, and a sense of loss of control over oneself and the surrounding environment.

"other than curling up in a ball or err being in tears….my pain was horrendous to be honest"- (Jon).

Man Up

Around the physical challenges of pain, participants found themselves questioning their resilience and military training around managing pain; that to them was meant to protect them from experiencing any emotional or physical pain emotion. Therefore, mentally, and emotionally struggling to tolerate and accept pain, which was becoming increasingly wearing.

But the underneath layers of the choice of words used by participants, captures the raw, vulnerable emotion of not wanting to admit self-defeat, or becoming a burden to others, or admitting personal impact by still trying to find personal resistance to holding onto a sense of self.

"when I was injured in Afghanistan, um I got told man up, don't be so silly and all that….I pushed for them to follow the SOP's, what they should have done, I should have gone for a scan there and then in 2007, 2008, which would have revealed what happened to my neck and possibly wouldn't be in the situation I'm in now. If they'd caught it much, much, earlier, possibly could have treated it. I could have avoided running around with heavy weights n stuff, on my back and crushing my neck further for the next 4 or 5 years until it got to the points where it was irrecoverable…. then I had mental health issues later on when it emerged what had actually happened and treatment process, um, I was dealing with a lot of anger issues at the time. You can't wrap people in cotton wool when you join the military you have to meet their standards, that's all there is to it, and get that, but sometimes, if people take an injury,

um more needs to be done, to educate the instructors, and the more senior guys on times." – (Lee)

"*the remedial instructor got me to do a V Sit on a vaso ball and he prolapsed on of my discs*"- (Molly)

These core values of military conduct and behaviour were something that participants felt personally connected to, that even when injured, most veterans still used it as a daily standard to live by. But when pain effects daily life, this had a detrimental effect on their mental wellbeing, as they have failed themselves and the military code that they adhere to.

"*I truly felt sorry for myself; I felt really shit about feeling shit….the corps has little time for self-pity. The real emotional pull within me, between the military fit core self and my injured self, that is still trying to maintain the standards of a serving individual and the pure exhaustion that comes from pain, injuries and trying to maintain the military standards*"- (Jason)

In moments of vulnerability and fear around extreme pain, some participants identified using the "man up" method to give themselves a "good talking to," as a way of trying to hold onto some of the core military standards and philosophies. Using these masculine affirmations around bravery and courage in the face of adversity to regain some self- control, perspective, and self-protection of the self.

"I just tell myself to get on with it and Man Up"- (Molly)

"*Man, Up and get on with it, if you were having a tough day, you know, you would get in a heap over*"- (Lee)

Some participants used this philosophy of " *Man Up, Dig Deeper*, and *Push Harder"* to push through daily pain barriers to be able to adapt, to complete their future personal goals.

Signifying that they were not willing to accept their moments of vulnerability and helplessness.

> "*My legs were both amputated they were really, really raw, tender and sore. I was having severe nerve pain and phantom limb pain…If I gave up getting into my wheelchair, I would have to start again. It was so important for me to keep focused and moving forward. My motivation and marines training helped me to cope.*"- (Jason).

> *"it is definitely a no pain, no gain philosophy really. Um sometimes you can go in too hard, you can push yourself a little too far with it for two or three days. You just can't wear a prosthetic, so you think well, maybe I deserved that, another learning experience, and some days if you don't do a great deal, you know you can continue to do that with little pain levels, but that's not really an option. Due to my lifestyle and due to my chosen sport, I need to be active every day. And standing up and about every day, it is that no guts no glory, really. So, I've really got to just keep at that, despite the level of pain that may come with it"*- (Brad)

Meaning that participants were determined to break through the personal battle and barriers, of managing life changing injuries and daily pain. Creating a new sense of self, to continue to do things that were truly meaningful and purposeful to them.

5.3.4. Superordinate Theme - Healing the Warrior Within: The Journey of Transformation and Self-Acceptance

This superordinate highlights the participants internal battle of searching within to try and hold onto the core self. Participants struggled to accept having to live with life changing injuries and chronic pain. Escapism was used by participants as a way of transporting themselves from the realities of injuries and daily life. Furthermore, some participants were willing to embrace a new changed self and find a new sense of purpose in life.

This superordinate theme is underpinned by four subordinate themes which are: Escaping the reality of pain; Holding onto the core sense of self- (Finding self- Acceptance); Embracing a sense of changed self – (Willingness to embrace adaption); Finding a new sense of purpose.

Escaping the Reality of Pain

Participants identified using forms of distraction and transportation as an escapism, as a way of coping with every-day pain. In particular, participants used visualisation and music as tools, to divert away their present emotions, thoughts of their physical injuries, and pain. Helping participants feel more in control of present situations, to cope with the emotional and physical impact of their injuries, and pain in daily life.

Jason in particular talked about how he used the power of visualisation, to transport him away from the realities of lying injured and helpless; in the middle of an active minefield in Afghanistan, surrounded by enemy fighters. Suffering catastrophic life changing limb injuries and significant blood loss, Jason knew that it would take some time for his troop to set up an armed protective perimeter, to clear a safe pathway of the surrounding landscape of IED's, and for medics to reach him. Jason knew that whatever emotional fear and

frustration that he was feeling at that time, for any chance of survival; he had to manage his breathing, remain calm and stay awake.

> *"It's what kept me alive and got me off that pit in Afghan, I used Visualisation n stuff… I took myself away from the situation and just pretended, I was chilling on holiday by the sea, in some hot country.*" – (Jason)

For Jason, the awareness that he had three missing limbs, unable to do anything, completely vulnerable; meant that visualisation was his method of taking his core self away from the situation. Creating a form of self-preservation of the physical, mental, and spiritual impact within a fight or flight situation of life and death.

All participants identified using different forms of music as an escapism or distraction during daily life. Using it as a way of switching off active thoughts or distracting the mind in combination with medication to cope with pain. Thus, giving participants present moments that helped support recovery, sleep, and general wellbeing.

> *"Tibetan bells, I find that um, when I'm struggling to sleep, that can be very helpful, sort of relaxing, trying to sort of switch your mind off, or sort of tune your mind out a little bit, if you put on the Tibetan bells and you take your tablets, can help a lot"- (*Lee)

> *"keep my mind occupied when I am not doing anything. When I'm, sort of sat or stagnant something like that if uh you know obviously only take a certain amount of pain killers and got to rest up, so I'll put the iPod on*"- (Jimmy)

> *"Yeah, music is therapeutic without a shadow of a doubt it helps me relax and motivate*"- (Chris)

Molly in particular, found that her pain experiences severely affected her PTSD and her ability to cope with every-day life. The challenges of leaving her home, or grocery shopping

and even facing people, created further personal struggles around anxiety and feelings of vulnerability. Molly identified music as a way of coping with anxious and stressful situations outside the safety of her home. Thus, meaning that the distraction of music helped her feel in control of her emotions and reactions. Experiencing moments of the old self and escaping the realities of her present physical and mental injuries, and chronic pain. Creating a deep sense of personal freedom of the self, a calmness of peace within.

> *"myself it one of those things that um I listened to I guess to distract so if I'm out if I have to go shopping, I will put it on cos 1 it calms me down stops me getting angry with people because of my ptsd, it helps me to detract from situations and it does make me happier*"- (Molly)

Visualisation and music are tools that Brad identified that could have been beneficial during the recovery and rehabilitation journey, at Headley Court. But, at the time wellbeing and escapism techniques were not used or taught to injured personnel, as a tool for managing life changing injuries and pain. Meaning that, the personal impact of the pain experiences during recovery for Brad was incredibly stressful, and difficult to manage.

> "*Yea, there wasn't a lot in the way of imagery, there wasn't a lot in the way of relaxation and music, uh, certainly no dolphin noises or anything like that. Maybe I could have benefited from it at the time because it was, a very, stressful thing, but it was never really proposed to me. We only pushed the surface at Headley*"- (Brad)

Escapism for participants was a way that took them away from the present reality. A way to regain some control over their pain experience and to hold onto the core self.

Holding Onto the Core Self - (Finding Self- Acceptance)

Whilst struggling with coming to terms with sustaining life changing injuries, participants identified "Holding onto the core self" as a significant theme during the recovery and rehabilitation process. Participants clung onto the hope that, if they stayed in the military, life could continue as before.

But the reality was, that due to participants injuries and pain; they were unable to fit back into their original military roles and life as it was before. Meaning that participants felt lost, wondering who they were, fighting to hold onto the core self and refusing to accept the realities of a changed self.

> "*I lost about 6 stone in body weight. Um, but by the time I left hospital, by the time I got back to my battalion in uniform, None, of my uniform even fitted, you know, I was really, really unfit, and really, really sick. Not really fit to go back to work, but that was my objective that was my goal*" – (Brad)

> "*I was in a really, really lot pain at the time and kept pushing myself too quick and was causing more pain. I just needed to remain in the corps*"- (Jason)

> "*I trained really hard, but I knew deep down I wasn't right, but nobody ever said I don't think you should be doing this!*"- (Molly)

Unable to comprehend the reality of their present situations around the magnitude of the changes in their lives and unable to recognise themselves Participants experienced raw moments of complete loss of control.

> "*Wanted to end it all at one point. I was so angry at myself, I don't recognise me, anymore"*- (Jason)

"Holding onto the core sense of self" was the most challenging experience, that participants identified. Some participants struggle to ever find self-acceptance within the self and within

their daily lives. Creating pure anger and frustration towards themselves. Therefore, unable to experience an embrace a sense of changed self.

Embracing a Sense of Changed Self

"Embracing a sense of changed self" was identified by participants that experienced the journey of finding self-acceptance of their chronic pain and injuries. The significance of this was being to confront and being accepting of the self, realising that life could never be the same again. Surrendering fears of what was and learning to embrace the changed self and new daily adaptions.

> "It is what it is, what's left is what's residual for the rest of my life. I adapt, I adapt around it"- (Molly)

> "trying to adapt and find ways around it, without taking you know uh, very, powerful detrimental medication. It is a very, big challenge for me, unfortunate it is an ongoing process"- (Brad)

> "Now, pains pretty much, most days. I can get around about 90-95% of what I used to do. Uh, I can still go to the gym, um, I still swim regularly, um I still walk around, up, and downstairs…when it comes to certain things I realise; right, I won't be able to do that and gonna have to give that a miss" –(Jimmy)

Lee in particular had to accept that to prevent further spinal injuries and face a lifetime in a wheelchair, living with severe daily pain. He accepted the realisation, that he was unable to maintain his military career. But the significance of this meant that he could continue to be an active dad and be physically and mentally present in his families' daily life.

> *"it's more a case of it is, what it is ….with the prospect of being wheelchair bound if I aggravate my injury cos it's in my upper neck, which affects everything from the shoulders downwards, um it's just not worth me taking the chances, as far as I'm*

concerned, if I end up in a wheelchair because I do the opposite of what the doctors say is good for me, not only will I jeopardise my health quicker, I put things in a bad way for my family and my son in the long run. I'd rather be here and uh have to take a step back on times and be here than not being involved at all"- (Lee)

For Jason and Brad in particular, identified that acceptance of limb loss had been physically and mentally, a traumatic and challenging process. But physically and mentally challenged themselves even further. To embrace the changed self, by not accepting disability to define their lives. The prospects of living less than an average life in a wheelchair, was the driving force to adapting. Meaning that they were willing to push themselves to the extreme, through excruciating daily pain to be full time prosthetic users. Thus, creating a new sense of independence, self-control, and resilient mindset.

"*I was feeling totally dependent on others and out of control. I was struggling with this life I had been left with….I decided to throw my chair away and jumped on a plane to the US, to be mentored by another triple amputee. I went out there to gain insight, and basically have my ass kicked every-day for three weeks. To give me the skills that were necessary for me to live an independent life. It was the hardest things I've ever had to do, I was battered, bruised, open wounds with blisters, beaten physically, mentally, and emotionally broken. God, I was angry and frustrated. But, kept telling myself it would be worth the excruciating pain, blood and sweat. I've never looked back. I've been a full-time prosthetic user ever since*"- (Jason)

"I know I can live at the level of pain I experience on a day-to-day basis. If I just do less, but I don't want to do less, again I'm only 30 years old, I've got lofty dreams of things I want to accomplish in life and limiting myself physically is not capable of doing it, choosing to be disabled and wanting to be disabled and I mean that mentally but allowing myself to become more and more disabled by doing less and less, simply

to avoid exposing myself to physical pain, just isn't an option for me. So, it's about a balancing act, how much pain am I prepared to cope with on a day-to-day basis, in order to meet my level of fulfilment to meet my goals"- (Brad)

Finding a New Sense of Purpose

Through acceptance, adjustment, and adaption with embracing the changed self, some participants found new passions and diverse ways to be of service. Thus, creating a new sense of purpose. Recognising their own self value from first-hand experiences to help others and using that value to overcome their own adversity.

Jason had accepted that he could no longer serve front line, but still wanted to be an active part of the corps. This meant the ability to still be part of the extended corps family, which was important to him. The significance of this importance, was to create meaning, share his journey of recovery and adaption with other marine commandos. Therefore, finding a transformed journey and a new sense of purpose and self- worth; caring, supporting the welfare of fellow marines.

"I don't know what the future holds but, I wanted to take my knowledge and experience to help other marines facing adversity"- (Jason)

Andrew identified that through his own personal journey and recovery process, that he used journal writing and pain blogs as a form of self-therapy. By doing this, he recognised that he also found a new sense of purpose in helping others, through their own pain experiences.

"I've done a few blogs, I've done a lot of writing since I was injured, and um I found writing is for me another form of self therapy and getting all my issues with my thoughts down onto paper, well, since the start really cos A) it helps, it gets it all out the mind and it's a very good therapy. B) the fore mount it gets it out onto the internet so that if anyone else is having the same issues as I have then , or ask how long into

my recovery I am, they can either take words of wisdom from there or some advice. So Yeah, that's um, that's mainly why I do the blog or write" – (Andrew)

Through focusing and helping his nephew, Lee also identified that by having another sense of purpose, putting the needs of others first. He, therefore, was able to direct the mind away from his pain experiences. Creating a new sense of control and self- acceptance.

"neck was thudding and pounding but, as much as it was restrictive and annoying, it sorts of got forgotten about, as there was there was other things to keep me occupied that were more important, like a 12-year-old nephew needing somebody to be a father figure for a little bit and help him as he's getting bullied due to his autism, somethings like that. Sort of can put your own thing behind you and put that thing first, helps a lot" – (Lee).

Participants identified that through their own experiences of life changing injuries and living with chronic pain, that they were able to help others experiencing chronic pain and living with similar injuries. Which led participants to finding self-acceptance and peace within the changed self. Creating a new sense of purpose and self-worth in life.

5.3.5. Superordinate Theme - I AM – Who I Am Now

This superordinate theme represents the transformed self. Very few participants found the ability to accept and embrace a changed self through adaption. Those who have experienced this, have learnt that it is an ongoing-emotional and physical, daily battle to manage pain and injuries. Participants find themselves using the military mindset and standards to maintain the best version of self. Participants found themselves taking own responsibility for their own recovery and health and experience of moments of gratitude for being alive.

This superordinate theme is underpinned by four subordinate themes which are: The Rusty Old Motorcycle:-Maintaining the best version of self; Taking Ownership of Self; Personal Resilience: Amidst Adversity; Life into me again: Reigniting a sense of gratitude.

The Rusty Old Motorcycle:-Maintaining the Best Version of Self

Maintaining the best version of self is a core universal standard in the military, that is deeply engrained into the sub conscious minds from the very first day of basic training; of all those serving and retired. Combining these standards with life changing injuries and pain, most participants struggled to recapture the essence and find acceptance of a changed self. Especially within the social context and due to this unwilling to engage around physical and mental recovery and adaption. For participants that engaged in adaption and accepted a changed self, identified the ongoing importance of maintaining this standard for everyday life, even after life changing injuries and military discharge.

Brad in particular identified from his own personal experiences of trial and error, that to manage his health, wellbeing, and pain; he used daily goals and tasks to manage and prevent further pain. He found that by not doing that, he risked causing significant pain and mobility issues, and a world of isolation, that further impacted on his daily life. It was during a moment of significant pain that Brad compared and identified his own personal experience of managing pain and injuries, to his own motorcycle that was rusting in a corner of his garden and needing full service, overhaul of the bodywork and engine, from neglect and lack of attention.

Therefore, Brad now uses the metaphor “the rusty old motorcycle” as a reminder and a realisation that, if he too ignores the daily management of his health and pain. The consequence will be experiencing and living the life of a “rusty old motorcycle.”

"*I've had this motorcycle for years, used to ride around on it all the time. Had no problem with its MOT or anything. Then I stopped maintaining it, I stopped changing the oil, I stopped turning the wheels, I stopped cleaning off the rust, and because of that its now in my back garden not capable of doing anything, more or less and expensive ornament. The human body is no different, if you maintain it, if you go the strength, the discipline to keep doing the little things, the preventative maintenance, then it will stop you having to do a complete over hall and completely rebuild. It's no different, the body is a machine, the human mind and your body is a machine, if you maintain it. If you look after yourself, you push yourself, the rewards will be there, if you don't the consequences are pretty severe, because not doing the little jobs will just them into huge jobs later on down the line.*"- (Brad)

Brad identified that maintaining the best version of yourself was also significant for the wellbeing of other injured veterans. He recognised that many fellow comrades had experienced daily challenges around the changed self, not willing to embrace adaption or push through pain barriers to experience better quality of life. Thus, creating a deep personal disconnection and loss of self of the person that they once were in the military, and unable to recognise or connect with the reflection of the person in the mirror, that they are now. Creating fear, loss of self and self- limiting beliefs due to feelings of failure, guilt, and shame, unable to comprehend the present self. Some veterans experienced moments of self-sabotage around personal capabilities, using fear as a shield to protect themselves against further experiences of severe and random pain. But, by doing that, they are isolating themselves from new experiences and a more fulfilling life.

"my friends are going the same way, my friends are sad to say um, rusty motorcycles, they don't move, they are prolific wheelchair users, but I stress they are wheel chair users by choice, not all of them, it's easy for them to be in a wheelchair, where it

hurts to be walking around on prosthetics, it hurts to push yourself, it hurts to do the work, yes but that is the perspective of maintenance, those little jobs will keep you physically and mentally well, and have a much more fulfilling life. But now they are sadly rusty motorcycles, and their bodies have changed, they have gained huge amounts of weight, their self-esteem suffers as a consequence, and they no longer feel like the people they were in service. They look at pictures of themselves from Afghanistan and Iraq and they feel no connection to that person, because very, little of themselves has remained the same. So yeah, just doing the little jobs, will stop you turning into a rusty old motorcycle" – (Brad)

Maintaining the best version of yourself is a daily focus also for Jason. The standards of the marines are so engrained that even with life changing injuries and triple amputations, maintaining that high level of physical and mental wellbeing is important to daily life, his family's life, personal goals, and achievements. Signifying the importance of having people around you that share similar beliefs or standards to achieve the best experiences in life.

"*Maintaining the corps standards is so crucial, to who I am now and my life values and purpose, every day is a new day. I know as I get older, I will need to use a wheelchair, I know it's a reality and its scary. But, right now I owe it to my family and myself, to live my best life; there is no limits or excuses to accept being average. I have to be that absolute best version of me*." (Jason)

There is the subconscious realisation with Brad and Jason in particular that a second chance of life was given and therefore the personal significance for them is to live each day at your best with meaning and be the best version of yourself. To live a life like a rusty old motorcycle would be a self-imprisonment without purpose and a wasted second chance at life.

Taking Ownership of Self

All participants recognised and highlighted the difficulties in accessing support and healthcare, both during military service and after discharge. Due to that, all participants felt let down and abandoned by the military and the NHS. A number of participants identified that they had no choice, but to help themselves and take ownership of their own health and wellbeing.

> *"you've gotta really go out and look for it, it's not sorts of offered to you"* – (Dan)

> *"you either have to be very pro-active to get the help and support you need, or you end up doing it yourself"* – (Chris)

Participants identified the complexity of seeking help and support not just from the military or the NHS, but also from military charities and organisations. They experienced lack of centralisation, collaborations, and communication within many military charities. Due to this, vulnerable participants felt that they slipped through the cracks and were unable to personally navigate their ways in finding help and support. Due to this many participants found it difficult to seek help and found themselves trying to manage alone.

> *"I think it gets complicated because the issue is, there is so many veterans charities out there and so many different organisations and people trying to help that nothings kind of- so disjointed that not centralised, therefore for the end user is very difficult to understand where to go for what help and support"*– (Chris)

Some participants actively reached out for support and also searched for professionals that could help with pain management and their recovery goals. The implications of this were having to pay privately outside of the military rehabilitation or NHS; from their own savings, and or injury compensations for care and support that they needed to recover. Meaning that those participants were determined to engage with recovery and adaption; with the

willingness to embrace the changed self. Creating a new personal mission to take back personal control of their own lives.

> *"It would have been so easy for me to sit back on the situation, but I made myself accountable. So, I started researching and looking for role models and professionals that could help me achieve the life I wanted; even with the amputations that I have. My injuries, and pain, was not an excuse to be angry. I was not going to be a number and wheeled in the corner. I knew I had to endure the pain for the long-term gain. My life was going to be more than that and it was my journey to lead."*- (Jason)

> *"I chose to maintain my general wellbeing. So, there are ways I try to control my pain myself. So, again have to do these things myself, and I have to maintain the discipline to do that. Somethings ive had to seek out medical support and physio help for myself. There is definitely gaps in the NHS, for me to have to go into the big wide world to find people who could fill those specific medical and health needs."* - (Brad)

For these participants that took ownership over their own health. It was the fear of being stagnated or going back to experiencing a vulnerable, dependent self, barely living any type of life in the unknown, created feelings of sheer helplessness, failure, and shame. Which was the significance and the core moments that participants recognised, that their injuries and pain experiences are uniquely personal. Therefore, making them determined to be actively responsible for themselves and be their own first responders to their pain, health, and wellbeing needs.

Personal Resilience: Amidst Adversity

Engrained in the conscious and subconscious minds of participants, is the rigours of military standards and personal resilience. The importance of resilience within military training and combat is the power of human survival. But participants also recognised its core importance

within their own personal battles of recovery and acceptance of self. Personal resilience was also recognised as a key core factor within maintaining the best version of self and taking ownership of the self.

> *"the rigours of army life, certainly serving in an infantry regiment, um the discipline required….So, the army life has definitely helped me, the mindset the army instilled in me, um, that mind set has definitely helped me long after I left the service and I'm hoping it's going to stay the same way really"*- (Brad)

Brad in particular identified how he used personal resilience, in every part of his daily life from recovery, health, wellbeing, and socially. Resilience for Brad is more than just a discipline of maintaining the best version of yourself, but also a level conscious self-awareness around the physical and mental body.

> *"The chronic pain I'm living with is likely that the level of pain ill be dealing with, well for the rest of my days really, um, from the consequences of my injuries from Afghanistan. For the most past of my recovery is over. I've came out of the gauntlets"* – (Brad)

Participants recognised that during difficult daily moments of pain and deep despair from the realisation of life changing injuries. That they were able to push deep, through physical and mental pain barriers. Meaning that they had learnt personal techniques that empowered a deep inner strength of mind and body. Through this, participants were able to focus on their present goals or tasks, distracting them from physical pain, which helped them to remain living in the moment.

> *"My marine's standards, mindset and training helped me to cope in the face of adversity. This was the way I dealt with things at Selly Oak. If I gave up getting into my chair, I would have to start again. If the pain was so severe, that it overwhelmed me, I dug deep pushed through it... It is so important to keep focused and moving*

forward, living in the present, it's important to submerse in that realisation" – (Jason)

"Normally if I've got pain, I've just gotta crack on through it, cos I got a lot on. So, I can't really afford to have pain"- (Chris)

Within personal resilience is a core strength and determination to keep being the best version of self, regardless of pain and the injuries. Participants were not willing to sit under overwhelming pain and settle for an adequate life.

Life Into Me Again: Reigniting a Sense of Gratitude

For those participants that experienced near death experiences after sustaining life changing injuries. "Life into me again" is a theme that is symbolic for reigniting the life into the transformed self, and gratitude for whom they are today.

For those participants that had found acceptance and the willingness to embrace the changed self. Also experienced the reigniting of a sense of gratitude to those who saved them on the battlefields of Afghanistan and Iraq.

Matthew in particular experienced overwhelming gratitude to those who saved him in the face of adversity. After his convoy was blown up in Iraq, a medic climbed into the burnt out, fragmented wreckage to search for any survivors. Matthew was lucky to have been saved, as the bodies and body parts of colleagues were flown on top of him. But the medic, was insistent in moving around bodies and kept trying to find any life. After trying many times, the medic found a pulse in Matthew. He worked quickly to stop the significant amount of blood loss through using a tourniquet on his residual limb. Before getting Matthew casevaced to safety for further life-saving surgery.

"thank god eventually someone realised that there was life in me after trying to feel for a radial carotid pulse many times… I had some IV lines put in me both arms um and life into me again"- (Matthew)

During a casevac flight Jason was classed as dead. His body was put to one corner, whilst medical teams worked to save the life of another colleague. During a passing glimpse, a medic saw that Jason was experiencing eye flutteration, signifying brain response and got to working on Jason. With multiple limbs missing, and significant blood loss. It was in that moment that the medical team used a ground- breaking technique of using a medical drill, to insert an intra oscillar line for fluids into his hip bone, as a last attempt to save his life.

"back of a chinnock, no veins, very little pulse, 3 missing limbs. Their only hope to save me was drilling into my hip…With fluids and morphine, for a few seconds I came to. I complained about my arse hurting, before passing out again"- (Jason)

The impact for some participants was not just physical injuries, but the reminder from daily pain, emotional, psychological, and moral injuries that they were left to face. Meaning that they experienced dark moments, questioning whether their lives should have been saved. Due to this, some participants struggle to accept living with pain and unable to recognise the changed self.

"there were times through recovery, I was rough... you know, why? the pain, life that I was going to live. Whether I should have died on that pit in Afghan." -(Jason)

The experiences of rehabilitation and the Invictus Games found Lee revaluating his own feelings around his injuries. Being around other wounded veterans with different types of life changing injuries, embracing new experiences and disability sports, made him recognise that in comparison to others, he was extremely lucky. Thus, making him revalue what he can

do and reigniting a sense of gratitude for his level of injuries, and the future life opportunities he has to experience.

> *"you look at and see some of the other guys, always reminds me that you are not as bad off as some of these guys. There is always someone worse off than you…everyone has lost something. But, when you see somebody there with you, with half his body gone, singing at the top of his lungs to his national anthem with his hand on his heart, and I'm standing there, with what's on some days, a crooked neck, and a broken back. You think, bloody hell, I've got off lightly"* – (Lee)

The significance for Jason in particular, is that many other colleagues did not survive the same injuries. Making him more appreciative of each day he is alive with his family. Valuing how fragile life is and how easy it can be taken away. Jason values the significance of the changed self, but by also maintaining the best version of self. Using each new day to set new personal challenges, setting new goals, pushing through adaptions. But, most of all found himself creating meaning and purpose, to inspire and help others through the experience of life changing injuries.

> *"When I stood on that IED there was no warning, and I stepped on it and my life changed forever. I value every day that I am here knowing many with my injuries didn't survive. I am alive, I'm breathing, and this is my life now. I will always aim to live my best life to inspire and help others"* – (Jason)

Therefore, "I AM –Who I am Now" is the gratitude for life, and the full awareness and appreciation for the present self.

5.4 Conclusion

This chapter discussed the participants and their experiences of pain, before identifying the five superordinate and twenty subthemes by the participants, from their experiences of sustaining life changing injuries and living with chronic pain.

Chapter Six: Discussion

6.0 Chapter Six: Discussion

6.1 Introduction

This chapter will discuss the findings in relation to the aims of the research and how they relate to the wider literature.

Within the development of the superordinate and subthemes, it was found that there were further deeper powerful inter linked connections across all the subthemes (Appendix 9). According to Smith, Flowers, and Larkin (2009, p.28) "*the analysis process highlighted the hermeneutic circle of correlating and connecting meanings is the dynamic circulatory movement, of the lived experiences from the narratives emerging back and forth, between the part and the whole, the subconscious and conscious coherence of its true valuable meaning of participants life worlds*". Smith, Flowers, and Larkin (2009) also highlight the importance of comparing parallels and placing the interpretations of participants experiences within the wider existing literature and present research. As part of this process, the importance of the veteran's journey is discussed, and specifically how elements of their experiences have been considered in previous research.

Issues of abandonment and gaps in care are considered first, before progressing through the various stages of the participant's journey. The '*lived recovery journey'* is presented as a series of stages which although can be considered on a linear basis also encompasses an internal cycle of discovery and progression within each stage. Attempts are made to position the participants along the recovery journey which includes initial loss, avoidance/escape, finding acceptance, taking ownership, holding onto the core self, and embracing a changed self. Furthermore, the importance of supportive relationships is recognised as a significant role within the lived recovery journey.

6.2 Abandoned: Bridging the Gaps in Care

Within the findings, abandonment and bridging the gaps in care was the most significant underpinning connections that participants experienced concerning, accessing treatment, medical care, and healthcare support during military service and after medical discharge. All the participants felt completely let down and abandoned by the military and the NHS.

To better understand why participants felt abandonment by the military and NHS, it was important to explore the findings of the literature from the point of wounding, to accessing treatment and healthcare in military service, military discharge, and the transferral of care to the NHS. Ultimately, looking at how the whole journey contributed to the overall impact on participants experiences.

Little literature exists on UK or US operational clinical management from Role 1(battlefield/ combat medic) to Role 4 (major military trauma hospital outside of war zone/ home country) within OP TELIC/ OIF (Iraq) and OP HERRICK/OEF (Afghanistan). However, available literature identifies inconsistency and gaps in the medical administration management of clinical documents and the lack of tracking systems, which includes patient tracking and clinical outcomes (Bricknell and Nadin, 2017; Wood, Haldane, Plimmer, 2010; and Task Force, 2010). This is important in understanding the participants experiences, because the participants medical information may not have been fully completed by the time of their medical repatriation to Role 4, therefore leaving possible space for medical care inconsistencies and gaps in care.

From the identified inconsistencies and lessons learned the UK military have developed the Operational Patient Care Pathway (OPCP) from Iraq and early Afghanistan conflicts to track patients and data information from Role 1 (battlefield/combat medic) to Role 4 (major military trauma hospital outside of war zone/ home country) (Bricknell, 2014; Bricknell and

Nadin, 2017). It is likely that these systems were implemented, after the participants in this study were wounded and medically discharged indicating an absence of a clear pathway to manage care.

6.2.1 Medical Discharge

The challenges for participants around feeling abandoned did not just stop at military pre and post Role 4. The most significant inconsistencies in care and care impacts were identified by participants in this study around medical discharge by the military. Participants highlighted how they were being "patched up" after recovery, to be military fit and ready to be redeployed or back in front line roles. But, if this was not successful within a small period of time, participants were medically discharged. Participants openly discussed how they were made to feel like '*not fit for purpose;'* '*past their expiry date;'* and '*out of sight, out of mind*'; and '*there's the door, you are of no use to us now, bye.'* Participants described experiencing the medical support through the discharge process as so emotionally and mentally challenging, creating feelings of failure and guilt for leaving comrades behind in conflict zones to complete the mission.

Recent findings completed by Help for Heroes (2019) confirm that the experiences of military discharge by the participants in this study, were also amplified within the findings of the report. It identified major concerns that many of the wounded personnel across the three branches of the military, were being discharged the very same day. With further time variations and consistencies found across the services identified around the decisions from the medical board were being made. Furthermore, the report by Help for Heroes (2019) around the experiences of military discharge identified that many operationally wounded personnel were being discharged without any rehabilitation, raising the concerns that many wounded with complex injuries are being completely overlooked. Chances of recovering to

their fullest potential are minimised without the acute rehabilitation support. Such support is of particular importance for wounded personnel with complex pain, brain injuries, neurological, spinal and limb loss, where the chances of recovery can be time sensitive and the need for early rehabilitation intervention is critical. The report recommended that '*the Armed Forces should guarantee a minimum transition time of 6 months to ensure those medically discharged are able to transition smoothly while receiving the support and care they need, to begin to recover from their injuries'* (Help for Heroes, 2019, p.11).

Due to these findings, the report also called on the government and MOD to revise their regulations around the new state of the art military rehabilitation centre DMRC Stanford Hall that is only accessible to serving personnel. Making it accessible to operationally wounded veterans that desperately need rehabilitation to support and enhance their recovery and quality of life. It is also possible that these report findings influenced the launch and development of the new 'Strategy for Veterans' (2019), that highlights the importance of a 'smooth transition of wounded personnel that need long term continued health care' (Strategy for Our Veterans, 2019,p.22). The significance of the participants experiences in this study highlighted the need for further research around medical discharge. Particularly with the considerable gaps in the literature of Op Herrick and Op TELIC wounded veterans' experiences of the medical discharge and transitional process (Blinks and Cambridge, 2018; Gordon, Burnell and Wilson, 2020; Ahern *et al.,* 2015). The report recommended for an independent review to be completed into the MOD discharge process and transition.

Furthermore, the recommendation of the Veterans Strategy also confirmed the participants experiences of feeling abandoned by the military. Participants in the current study also wanted the opportunity to stay in the military, even if that meant a change in role or downgrade. However, the journey of medical discharge did not involve personal choice or

involvement for participants, who were included in the decisions made by the military. It made participants question the true worth of personal sacrifice, and the true cost of service. Despite any accomplishments in their careers, at the end they felt they became just a number and felt little appreciation or duty of care at the end of their service careers. For most participants there was an overwhelming experience of rejection by the military family.

In contrast, the US military has dramatically developed its military recovery and discharge process. Since 2009 the US Department of Defense (DoD) has continuously developed its 'Warrior Transition Program', based on the experiences of caring for the needs of over 2.1 million OIF/OEF wounded veterans. Its values are based centrally around the wounded warriors biopsychosocial-spiritual care needs, with the focus of '*recovery, adapt and overcome.'* Each branch of the US military manages its own wounded under the 'warrior transition program' recognising the importance that each branch of the military is unique, with its own community, culture, standards, and core values. Furthermore, the 'warrior transition program' also identified the importance of wounded personnel maintaining a sense of belonging and identity, by centralising the clinical triad management of recovery, care and support around recovery centres based within military bases. Military reserves also have the opportunity to receive specialist care, rehabilitation, and time to heal and recover within their community-based recovery centres. The Department of Defense (DoD) recognised that continuity and consistency is vital for the successful reintegration back into military duty or for the successful transition into the civilian community with respect, self-determination, and dignity. A customised person-centred care plan which includes the 6 aspects of transition: physical, emotional, spiritual, family and career, with a focus around mission and meaningful purpose. The recovery time reflects the needs of the individual with no less than a year for those without life changing injuries, and longer periods of time for those with

complex, comorbid or life changing injuries and chronic pain. (Cooper *et al*., 2011; Hudak *et al.*, 2009).

The 'Warrior Transition Program's' aim is to have wounded personnel recovered and fully operational. If this is not possible, the program seeks to return wounded personnel back to duty within a less operational role or within a new speciality. For those where military duty is no longer a possibility, the personal transitional pathway is commenced, where the care management is transferred to the Veterans Affairs (VA) or Tri-Care after the recovery plan has been completed. The welfare and support become a dual management between the military warrior program and the VA or Tricare. This is to ensure, that the delivery of care and support is continued.

However, compared to the US recovery plan, for the participants in this study, the military medical discharge to NHS services often resulted veterans feeling vulnerable and helpless. Not knowing where to turn or go for help or support, trying to manage alone, slipping through the cracks of the NHS. Having to face significant pain, along with moments of extreme darkness of fear, and shame of who they had become.

The difficulties transferring basic medical notes to primary care and specialist services within the NHS was also highlighted by the participants as another reason for the gaps in care. The participants findings were supported by the Chavasse Report (2014), which stated that 'veterans are falling into "*no man's land*" within the NHS just when they need the help the most' (Briggs, 2014). More recently, the charity Help for Heroes in 2017, developed and implemented a clinical liaison team to support those on the recovery pathway based on the outcomes of the Chavasse Report (2014), suggesting a need to address concerns during the discharge and future care.

The new ‘Strategy for Our Veterans’ (2019) highlights the priority of a ‘smooth transition of wounded personnel that need long term continued health care’ (Strategy for Our Veterans, 2019,p.22). The strategies aim is for every veteran by 2028 to feel valued, cared for and empowered in accordance with Armed Forces Covenant. Its objective is to bridge these gaps in care, to highlight those who will need life long and long-term care during the defence recovery pathway. For complex care packages to be developed during the recovery pathway, using a multidisciplinary team and case welfare manager; before the main care management is continued under the services of the NHS. Under the commitments of the Armed Forces covenant, the MOD will continue to collaborate under the care guidance, to ensure the commitments and quality of care are being met (Armed Forces Covenant, 2018). However, it is unclear whether all military personnel that are being medically discharged will also receive the same care and MDT support whilst on the recovery pathway; or a clinical/ discharge liaison officer that would support individuals through the care and military/ civilian transition process and journey.

Furthermore, through the ‘Strategy for Our Veterans’ (2019), six strategies were identified around health and wellbeing. Particular focused areas targeting specialist care treatments such as pain management; education and accreditation around primary care and healthcare caring for veterans. Furthermore, the transfer of medical notes from the MOD to GPs on discharge, aligning IT systems between the MOD and NHS services. Also, the signposting of services; and the smooth transition of wounded service personnel that need long term continued health care (Strategy for our veterans, 2019,p.22). In line with this a new framework was brought out by the UK Government in 2019, to bridge these gaps in care, in particular around those with life long, life changing complex injuries. At present this new framework is being trialled in England only. This confirms the concerns of the participants themselves who highlighted that many vulnerable veterans would have slipped through the

cracks within the transition of medical discharge and the NHS. Implementing the framework may pose considerable challenges due to the identified gaps and complex injuries of those living with chronic pain.

6.2.2. Knowledge and Awareness of Caring for Veterans

Participants not only highlighted the significance of the gaps in care from the point of wounding to military discharge and NHS. They also identified the lack of understanding, awareness and knowledge of veteran's injuries and pain within healthcare teams. They experienced feeling let down by the healthcare staff; due to their lack of education and understanding of their injuries, their pain, and the military culture. Which at times resulted in participants not being given the right treatment, care, information, support, or guidance around managing and coping with daily pain. Participants expressed, being left to feel helpless, vulnerable, fearful, and struggling to manage their chronic pain. The lack of specialist care for veterans is widely documented (Engward, Fleuty and Fossey, 2018; Hitch *et al*., 2020). Clearly there is a need for greater healthcare education, and accreditation around primary care and healthcare focussed on veterans (Chavasse Report, 2014; Strategy for Our Veterans, 2019; Bokhour *et al*., 2020; and Marchand *et al.*, 2020).

An integrative literature review around nursing programmes that prepare nurses for caring for military veterans within civilian hospitals (Cooper, Andrew and Fossey, 2015) indicated that the literature is solely US based focussing on the Veterans Affairs (VA) facilities and centres (Harmer and Huffman, 2012; Beckford and Ellis, 2013; Jones and Breen, 2015; Morrison-Beedy *et al.*,2015) and US educational institutes (Harper *et al.*,2015). Feedback from US student nurses that have completed placements within the VA and community settings highlighted the need for training around the awareness of the military culture, building trusting relationships, and awareness of each conflict. Furthermore, how these

impact on the physical and mental health of veterans, chronic pain, and topics such as grief and loss (Butler, Linn, Meeker *et al.*, 2015). This literature review highlighted that the UK currently has no formal educational courses or professional development modules for nurses within the NHS or other care providers around caring for military veterans, veterans and chronic pain, or the complex care needs of military veterans. Consequently, it may be difficult for health professionals to gain an understanding of the specific needs or considerations when caring for veterans. Therefore, highlighting the need for healthcare training around the complexities of caring for veterans, veterans' experiences of pain, and their unique culture.

6.2.3 Complexity of Care

Much of the UK literature around military and veterans' centres on mental health. A particular realisation was experienced whilst completing the literature search on 'Opioid Addiction in Wounded Veterans with Chronic Pain' (2.10) and Comorbid Chronic Pain, Traumatic Brain Injuries and/or PTSD (2.11). The realisation was, that within research and clinical care the awareness of the complexities of veterans is already known; yet literature and clinical practice show that the aspects of physical and mental health are still being treated as separate entities. Therefore, as recognised in research on 'opioid addiction in wounded veterans with chronic pain' (Tiffany *et al.,* 2019), there are significant gaps in researching physical health including chronic pain, within the areas of mental health (Goodwin *et al.*, 2017; Sharp, Busuttil, and Murphy, 2019). This was a particularly important revelation within this study of 21st century veterans and having to manage complex injuries, chronic pain, and comorbid (physical and mental) conditions. It particularly highlighted a reason for veterans in this study experiencing gaps in care. Also, why healthcare staff are possibly not looking at the experience of pain holistically; and why veterans in this study highlighted personal challenges around pain medications and managing their pain alone. Participants

received a varied prescriptive number and levels of pain medications, which led to varied forms of opioid addictions to manage their pain. Therefore, there is a need for further understanding around the impact of recognising and treating the physical health impacts within mental health management, also the management of comorbid conditions (combined physical and mental conditions).

This particular concern had been identified by the US Task Force Report (2010), and the 'Biopsychosocial Model of Pain in Veterans'(2.5.3). Which highlighted the need for the multimodal, combined treatment and care of US veterans, through their implementation of the Whole Health system throughout the VA (Bokhour *et al.,* 2020). Furthermore, for the new 'Strategy for our Veterans'(2019) that will support and care for veterans living with complex and enduring physical, neurological, and mental health conditions to be successful. The collaboration within the universal personalised care, the biopsychosocial person-centred care, care planning and delivery of care, will need to address the impacts of combined physical and mental conditions on chronic pain experiences (Coulter *et al.*, 2015). There is a need for more research on the impacts of comorbid conditions, and biopsychosocial management of complex injuries and chronic pain. Reemphasizing, the need for education and training for healthcare regarding caring for the veteran community. Also, how to best care and support them, in particular with complex injuries and chronic pain.

6.3 Veterans Lived Recovery Journey

Participants experienced a raw and powerful personal journey centring on loss, self-awareness, and self-acceptance. This led them to question the meaning of their lives and finding meaning in their daily suffering of pain. Participants needed to get to a place where they could consider personal acceptance, ownership of pain and being able to embrace the changed self.

Focusing on the recovery journey, or process that wounded personnel or veterans experience after life changing injury and chronic pain; highlighted there was a significant gap in literature across the military, veterans or even rehabilitation research that explored this area. Existing limited literature focusses on military transition, employment, and social impacts, with identity adaption on the transition to being serving military and living a civilian life (Grimell, 2018a; Blackburn, 2017).

However, it was clear from exploring the biopsychosocial (2.5.2 and 2.5.3), the biopsychosocial-spiritual and psychoneuroimmunology perspectives (2.6); that the 'whole person-multidimensional experience' plays a significant and essential part within participants journey of healing, recovery, and resilience. Which also influences their abilities to cope, overcome and adapt to such life changing injuries and daily pain.

Only one research paper by Besemann *et al.* (2018), briefly highlights a particular journey or process that Canadian wounded service personnel were observed to have experienced during recovery and rehabilitation. Within a reflection of the biopsychosocial-spiritual perspective in the recovery and rehabilitation of Canadian injured service members; it was described as "*the journey into the depths of ones being, only for the individual to emerge stronger, with a deeper understanding and knowledge. If one does not welcome the journey and take every hard step required, eventually the body rebels and speaks in a language that can no longer be ignored"* (Besemann *et al*., 2018, p.11). However, no further context or detail was given within the research around this journey or process.

6.3.1 Loss and Grief

Loss and grief were identified by the participants as the first stage that they experienced during this lived recovery journey. Much has been written about the role of grief and loss related to death, but also in relation to pain (Parkes, 2009; Roy, 2004; Cosio, 2019). However, Grossman (2009) also acknowledged that a soldier's phases of loss and grief cannot be compared to, because of the brutal realities of being injured by another human being and having to kill others. There is also limited research around the recovery journey of wounded personnel or veterans post-war, that particularly identify the post-war emotional experiences of loss and grief. However, according to the US Department of Affairs (2009) a substantial number of combat veterans sought emotional support around aspects of grief and loss that had been actively involved with the conflicts of Iraq and Afghanistan (Lubes and Silver, 2019; Aloi, 2011). Furthermore, this sense of loss was also recognised by Herman and Yarwood (2015), particularly when exploring veterans' experiences of having to leave the military when they are not ready to leave.

Participants in this study accepted that with the realities of the call of duty, serving on the front lines of Iraq and Afghanistan, came personal sacrifices and significant risks of being seriously wounded on the battlefield. They were particularly matter of fact and non-emotional when talking about their life changing injuries, that it was the decision and choice they made when joining the military. Whilst our military are trained to be front line soldiers, with the skills to fight in extreme environments and conflicts. It can be argued that the mind and body were not prepared for experiencing the powerful emotions of intense grief and loss (Richardson *et al.*, 2020; Isaacson *et al.*, 2010). This loss can be personal loss that they felt for the fit, healthy, and independent person they were before being injured; or the realities of living with such catastrophic injuries and experiencing significant pain. Furthermore, the participants in this study highlighted through their recovery journey, that this personal loss

was made more significant due to the further need for multiple surgeries. Surgeries which continued for several years after sustaining their injuries because of amputations, skin grafts, burns, or to prevent gangrene from non-healing wounds. Daily chronic pain also created them with daily reminders of traumatic events that they faced during deployments. Without this validity and acknowledgment many veterans faced a lifetime of trying to accept or adjust. Because of this, participants were not able to experience healing or closure (Jones, 2013). For some of the participants in this study, this made them question whether they should have been saved.

According to Lewis (2006) and Doka (2002) combat veterans experience high levels of complex grief; known as disenfranchised and unresolved grief. This can accumulate from extensive deployments, adjustment post-war and deployment, loss of identity with military discharge into the civilian world. Which was then magnified by physical injuries, chronic pain, and other comorbid health conditions (Charney *et al.,* 2018). According to Lewis (2006) and Richardson et al.(2020) this type of complex loss and grief experienced by wounded veterans is consumed with the emotional and psychological impacts of losing fellow comrades, on top of their physical injuries. The significance of this complex loss and grief was experienced by participants in this study. Which also brought for them further emotions around guilt and shame for being alive when others died.

Kubler-Ross and Kessler (2014) suggests that the five stages of grief and loss must be experienced fully, otherwise individuals will never heal or recover. With the inadequate care and support given post wounding, wounded personnel and veterans were unable to process, identify or know that they are experiencing the stages of loss and grief. These can have a lasting and profound impact if not accepted, addressed, or recognised by the individual or those caring for the individual. This also confirms and links into the biopsychosocial-

spiritual perspective of the recovery journey that was identified by Besemann *et al.* (2018) that "*If one does not welcome the journey and take every hard step required, eventually the body rebels and speaks in a language that can no longer be ignored"* (Ibid, 2018, p.11). Within the paralells of Kubler-Ross and Kessler (2014), Besemann *et al*. (2018), and Grossman (2009) also identified that many Iraq and Afghanistan veterans struggled to work through the initial first stages of grief and loss; due to the significant psychological, emotional, and physical complexities of the deployments. Veterans faced years of trying to rationalise or accept not only their own life changing injuries and pain; but also, the deaths of comrades, flash backs from deployments, and having to take the life of others. Many veterans struggled to work through the denial, fear, and avoidance phase. Grossman (2009) and Kessler (2019) also identified the importance and need for grief and loss to be fully validated and to be acknowledged by another person within the veteran's social support circles. This is seen to be crucial element for veterans to be able to work through each phase of the lived recovery journey. Therefore, re highlighting the significance that the biopsychosocial-spiritual approach can have within the resolution of grieving for the loss of self because of life changing injuries.

6.3.2 Loss of Self

A further deep loss of self was also experienced by participants in this study around the realms of identity of masculinity and femininity. Participants described being stripped of their core masculine and feminine selves not just through their injuries, but through their pain experiences. Because of this they found themselves hiding their levels of pain from loved ones and fellow military colleagues, to protect the core self from stigma of being weak and broken goods. Carless and Douglas (2017) found that even within the military rehabilitation environment, veterans would consciously hide pain from fellow comrades for

the fear of being outcasted from within the military community. Furthermore, within this loss of masculinity was also the unspoken loss of sexuality and also the loss of genitalia. Many of the participants in the study talked openly about how this had impacted on their daily lives and their intimate relationships. Wool (2015) and the Bob Woodruff Foundation (2016) highlighted the personal significance of these type of intimate hidden wounds. For many participants it was too shameful to talk about, not even discussed by healthcare professionals that were caring for wounded. Wool and Messinger (2012) highlighted this was an area of literature that was very under researched. However, these were the significant realities of 21st century combat veterans with such life changing injuries. For many participants they again questioned whether their life was worth living, because of the stigma and shame that they felt.

Participants in this study discussed how this had impacted on the dynamics of the intimacy part of the relationships that they had with their partners. For many participants because of their injuries, pain, and medications they were unable to sexually perform, which was an essential element to their relationships. Some of the participants were also having to now rely on their partners for personal care support. Thus, contributing to further making them feel inadequate, undesirable, and emasculated (Wool, 2015). It made them question how they were seen through the eyes of their loved ones (Nochi, 1998). Participants that were single in this study also discussed concerns of facing the rest of their lives alone. Fearing rejection, shame; and the painful stigmas arising from a newly altered, and wounded body.

With the multiple back-to-back lifesaving trauma surgeries that participants in this study received, with others needing specialist spinal surgical interventions, along with the overwhelming experiences of grief and loss. Participants also found themselves having to manage the extreme post-surgical pain from these multiple back-to-back trauma surgeries. With also the realisation that for some of the participants, they would need further surgeries

for the rest of their lives. Having to face their own uncontrolled pain without the support and help from the military or the NHS, made it far more difficult for participants in this study to communicate. They felt unable to share these feelings and emotions of shame with loved ones, friends, and even other comrades. Due to this, participants reverted inward and away from society as a survival mode of coping with post-surgical pain, fear, and shame. For all the participants this element of the journey was the most difficult, emotionally the darkest; and the most psychologically and personally raw.

6.3.3 Fear of Pain

Participant's findings in this study, highlighted significant gaps in veterans research around these experiences post-injury. Thus, included pain experiences, pain interference, fear-avoidance, and quality of life, and what this truly means to those experiencing pain. However, one study by Roddy *et al.* (2020) identified the daily debilitating post-surgical pain in older veterans. Which found that the pain they reported was up to seven years post knee surgery, with the substantial use of daily opioid medication (Hadlandsmyth *et al.*, 2018). Furthermore, in parallel with the participants experiences of pain in this study, chronic pain was identified as the most disabling prevalence in polytrauma veterans of the Iraq and Afghanistan conflicts; affecting 76% to 100% of samples (Ord *et al.*, 2021; Adams *et al.*, 2019; and Finley *et al.*, 2015).

There is significant research around the debilitating impacts of post-surgical pain which highly correlates with the effects on recovery, physical functioning, disabling pain and quality of life within the civilian communities (Macrae, 2008; Henrichs-Rocker *et al.*, 2009; and Gan, 2017). The only similar group to veterans that could be explored to compare around the participants findings was research around NFL athletes who also experience significant injuries, incapacitations and even death due to the high impact sport (Weir, Jackson &

Sonnega, 2009; Zafonte *et al.*, 2019; Golightly *et al.*, 2009). The similarities that they have with veterans' experiences includes pain intensity from the injuries and traumatic head injuries. Furthermore, the connection around pain related fear creating avoidance behaviours such as significant opioid use and the use of alcohol (Mannes *et al.*, 2020). However, recent research around NFL players has also recognised the need for interventions around their injuries. Which highlighted the shortfall around the significance of these injuries long-term, exploring the impact of chronic pain, and themes around the 'whole player, the whole life' (ibid *et al.,* 2020, p.2). Even with the similarities around high impact injuries between NFL players and combat veterans, it is particularly difficult to draw on research from other groups. The complexities that surround veterans and their experiences cannot be compared. With this being a new arena within veteran's research, there is a need to explore around post-surgical pain in veterans. Particularly veterans that have received multiple surgeries from polytrauma and battlefield injuries.

The fear of pain, the fear around the realisation of the life that they were living, and dependency on pain medications for participants in this study, also magnified the traumatic flash backs of their injuries and other elements of their operational tours. For many of the participants this was also the stage of their recovery where the experiences of mental injuries were also first recognised. Which were also exacerbated by the post-surgical acute pain, the medications, and the development of un-managed complex chronic pain. The fear of pain also created by overbearing painful episodes, combined with the memories of experiencing other severe painful episodes, and unable to divert thoughts away from the pain itself. Some participants felt that the pain was also a form of self-punishment because they survived when others did not. The overwhelming desperation around their pain experiences consumed them with suicidal thoughts, and helplessness. Within these deep and dark moments, the participants were experiencing the survival reaction of '*fight, flight and freeze'* response of

the body and mind. Desperately trying to cope with the pain and loss, they found themselves using forms of disassociation to numb their experiences. Using avoidance and escapism as a way of coping from the mental, psychological, and physical pain itself.

In parallel with the participants experiences in this study, the work of Scaer (2001) in particular identified the '*fight, flight, feeling and freeze'* experiences as a whole person embodiment of trauma, where the body and mind bears the burden. Memory and time become impaired, and with the alertness of the heightened mind, it can create responses and experiences such as moments of amnesia during the '*freeze*' phase during a traumatic event that can also been viewed as a state of shock, or in limbo. Furthermore, this '*freeze*' experience can be magnified further and last for longer periods through the use of high-level pain medications, or other numbing methods such as alcohol. The elements and implications of the '*Fight or Flight'* experiences are also documented by Zale and Ditre (2015), Zale *et al.* (2013) and Van der Kolk (1994), within their research around fear-avoidance, pain related disability and the biopsychosocial models around pain and coping.

In relation to research around pain avoidance, these experiences by participants also confirm that as a consequence of pain, individuals experiencing fear-avoidance and pain-related fear are not only trying to prevent pain, but avoiding pain related movements, and they are also trying to control and cope with internal and external outcomes of other life stressors (Buchmann *et al.*, 2021). With a small number of research that explores the lived pain experiences of understanding the impact of fear of pain itself according to Petrini and Arendt-Nielsen (2020), has been highly debated within pain research and recognised within clinical studies around pain chronicity and disability. From a number of studies around coping with pain, such as the 'Fear Avoidance Model' (Buchmann *et al.*, 2021; Crombez *et al.*, 2012; Vlayen and Linton, 2000); 'Transactional Model of Stress and Coping' (Lazarus

and Folkman, 1984); and the 'Resilience Model Pathways (Sturgeon and Zautra, 2010), the 'Avoidance-Endurance Model' (AEM) (Hasenbring *et al.*, 2009). There are significant commonalities around the complex factors of chronic pain from the cognitive, emotional and physical responses to the behavioural, which is impacted by external and internal stimulation, pain interference, and pain persistence, pain intensity and the individual ability to divert self- awareness away from the pain experience.

Furthermore, through the resilience model pathways (Sturgeon and Zautra, 2010), the 'Avoidance-Endurance Model' (AEM), and the 'Action Control Theory' (ACT), discuss how individuals cope and adjust under long-term exposure of pain, and threatening situations, which will depend on their resilience endurance responses. It highlights the importance of how the individual is able to self-regulate emotions and behaviours during pain attacks (Vlayen and Linton, 2000). How the individual reacts to the anticipated or actual pain experiences, is also determined by the understanding of the individual's biopsychosocial mechanisms and resilience factors around how quickly they adapt. Which can either facilitate further chronic pain, depression, disability, or the capacity to live a fulfilled life despite experiencing daily pain (Reich, Zautra, and Hall, 2010; Zale and Ditre, 2015, p.2; Sturgeon and Zautra, 2010,p.2; and Ramirez-Maestre and Peters, 2019.p1).

6.3.4 Impact of Pain Medication

Most of the participants openly discussed the fear that being highly dosed on medications brought them, with the emotions and feelings that it brought with it. At the same time being so fearful of the pain itself, especially for participants that were experiencing random pain spasms, contractions and shooting pains created further addiction. With exploring the way participants in this study coped, they openly discussed how they spent a considerable amount of time in the phase of trying to escape or numb the pain because it was so overwhelming

and could not see an end to the pain. Because of this all of the participants had developed a deep-rooted dependency on pain medications that started at military role 4, due to the poor management of pain that they experienced. This dependency grew further with the participants fear of the pain itself, which made participants feel completely vulnerable, with further moments of real desperation of trying to somehow physically, and mentally, get away from the constant pain. They discussed living in daily emotional cycles because of the pain, where the medications affected their conscious levels. Thus, was also depending on how much they had also taken and whether it was also accompanied by alcohol. Participants felt that in some ways that they were stuck in a parallel world far from the old fit self and military life. Where now pain had stripped their life and identity away for them, and life has become more about day-to-day existence. Many of the participants in this study further identified becoming stuck in that cyclic mode of pain, medications, and avoidance for quite some time. Numbing themselves from any feeling or emotion, unable to move past the pain and unable to accept the reality of their injuries. However, over a period of time many of the participants developed a self-awareness around how they were coping and their quality of life. Realising that they had become fully consumed by their pain, and that the pain medications were significantly impacting on their daily mental, physical, emotional, and spiritual self. Which led them to becoming more self-aware around how their mind and bodies were so interconnected around their pain experiences and their abilities to cope with daily life.

The participants experience in this study confirmed the significant challenges that wounded veterans faced struggling with trying to manage daily pain, the use of long-term opioid medications, and also finding pain acceptance (Baria *et al.*, 2019). The impacts of the medications were identified by Buckenmaier *et al.* (2003) as highly addictive if not managed properly within the early acute stages of pain. Further research studies need to be completed around the experiences of veterans and the use of long-term opioids. Furthermore, compared

to non-veteran populations, Halbrook et al. (2010) also highlighted that due to the complex nature of combat related injuries, those veterans of the Iraq and Afghanistan conflicts have shown to experience more complex co-morbid conditions such as mental health and brain injuries than any other recent conflicts. Those with lower limb extremity trauma were also found to have a higher level of PTSD, depression, and less quality of life which made chronic pain far more complex to manage (Gallagher, 2016). Furthermore, the participants experience also builds on existing evidence that was identified by the US Veterans Affairs around the significant challenges that are faced around the number of Iraq and Afghanistan veterans struggling with pain medications, opioid addiction and managing their pain (Taylor *et al.,* 2019; Marchand *et al.,* 2020). The original '*find it, fix it'* approach used by the military, led to a radical change and shift around pain management and opioid safety within the US VA healthcare. Which was found to have played a significant part within the opioid epidemic with the veterans' community (Veterans Affairs, 2018; Gaudet and Kliger, 2019).

Numerous of studies have highlighted the significant risk within the veteran's population around the prescribed opioid medications and opioid addiction (Baria *et al.,* 2019; Bennett, Elliott, and Golub, 2013; and Bennett *et al.,* 2017). However, the participants findings from this study does not match with the current research literature outcomes around opioid addiction in veterans. What was not expected in the findings by the participants experiences in this study, which has not been captured or explored in any present research. Was the participants personal awareness around the impact that the medication was having on their mind and body. The participants with time, recognised this addictive, escapism, and avoidance that they were living, which in itself brought a level of shame for not coping. Furthermore, the participants in this study, also recognised the need to make the decision to take themselves off their medication. One participant became so desperate to feel better, that

he paid for private mental health support to help him manage this pain and medication addiction. Others did it on their own, with no support or guidance.

For some, this difficult road took quite a few attempts to withdraw slowly from their high levels of daily medications and break through pain relief, down to the minimum day doses needed. Most participants took about 2-3 years to achieve this, and now try to just rely on paracetamol or ibuprofen. Many still fear the experience that the pain medications gave them and never want to experience those feelings and emotions again (Amirni, 2018; Graczyk, Borkowska, and Krajnik, 2018). The fear of being addicted to medications was seen as unacceptable within their moral code and standards, but alcohol was seen more acceptable socially within the military community in the UK. This finding is consistent with the study by Sharp, Busuttil and Murphy (2019) that identified alcohol as a preferred addiction with UK veterans for managing pain, instead of prescribed or non-prescribed drug abuse.

Due to the lack of research within the UK around veterans' pain experiences and pain medications, and with the considerable number of US opioid pain medication studies based around quantitative VHA research, instead of veterans' experiences (Minegishi and Frakt, 2018). It is important not to speculate, presume or discuss the outcomes of this unique finding without any present research. Therefore, raising the need for further exploration and research around Iraq and Afghanistan veterans' experiences of using long-term opioid and pain medications.

The experiences from the pain medications made participants want to understand their pain better. They found themselves trying to self-learn about the pain as a form of pain prevention, and to understand what would trigger the episodes of daily pain. This became a daily management of trial and error of what works for them, what made their pain worse, and also being accepting that some activities or past passions had to be left. From the gaps in care by

the military and the NHS, participants found themselves having to take control over their pain. These findings are consistent and build on the existing research by Hitch *et al.* (2020) that explored how army veterans cope with chronic pain. Which identified the importance of participants understanding of their pain, the relationship that they have with their own bodies based on their military physical performance, and conditioning training. However, according to the army participants in that study they preferred self-reliance when it came to the pain management approach, instead of seeking professional support. Whereas the participants in this study had no choice but to rely on themselves to adapt ways of coping and managing their pain. Furthermore, the participants in this study found themselves trying to take back control over their pain, pain medications and how it made them feel. They also found themselves going through the personal, complex journey of finding acceptance.

6.3.5 Acceptance of Self

Participants highlighted that there are two aspects of finding acceptance in a changed self, that they have to come to terms with to fully engage and embrace life again. Within the meaning of pain acceptance, the participants highlighted two parts to the acceptance process. One being coping and living with the pain, which meant that the participants were just existing and dealing with the daily pain. The biggest barrier that has been identified within studies around pain acceptance as recognised is the willingness to acknowledge pain (McCracken *et al.,* 2004).

The second part of the acceptance that was identified was the participants unwillingness to give up their valued passions and activities. But to do this, they knew that pain would still be present, but their quality of lives was more meaningful. For those individuals who are not willing to live in existence, acceptance is a form of journey through the process of also becoming more self-aware of mind and body. Which also saw participants wanting to learn

and understand their pain, to learn effective ways to self-care and self-efficiency. Individuals start to make informed choices to improve their quality of life (Vowles and McCracken, 2006). Furthermore, it was found that those who found acceptance with pain and the changed self, have self- adjusted their new perception and redefining what is their new normal, what are they now able to achieve and capable of. They did not just want a life of existence, instead they wanted to embrace a new and changed self, be the best version they could be of themselves as they are now (McCracken *et al.*, 2004; McCracken and Eccleston, 2003).

Whilst most participants will over time generally move to embracing some level of the changed self. Combined with other comorbid conditions such as PTSD, however, most will find themselves fluctuating between the different levels of acceptance. Again, this experience highlighted by participants confirms previous research around existing theories of pain and PTSD, that recognised the need for adapted models such as the fear-avoidance model to include mental and physical health related conditions. Due to the way individuals cope or adapt differently with comorbid conditions compared to those with just chronic pain symptoms (Otis *et al.*, 2009; Norton and Asmundson, 2004). Alschuler and Otis (2011) also highlighted the significant need for more combined research studies within the physical and mental injuries, which is also consistent with the study by Sharp, Busuttil and Murphy (2019). What was acknowledged by the participants in this study that raises parallels with studies by Risdon et al. (2003), Gullacksen and Lidbeck (2004) and LaChapelle *et al.* (2008). Is the individual process of pain acceptance and the lived recovery journey is a fluid personal experience. It has no precise end point to a specific time, with a non-linear process which can be months, or even years.

Those who made it to this element in their journeys identified that the fear of living with pain and accepting disability was not an excuse to define their lives. This became their

driving force in pushing themselves through some of the hardest moments of pain and darkness. They realised how important that their military resilience, standards, and values became within this element. It helped them push past the emotional and physical fear, and through their pain barriers and adversity (Cogan, Haines, and Devore, 2019). For those at this element in their journey, also recognised that not pushing past the fear or finding the willingness of acceptance meant that many veterans have become imprisoned within their own bodies and mind. They highlighted the importance of daily maintenance of the self to manage and prevent pain. If this is not done, there is the danger that other wounded veterans become stuck in a body that they do not recognise, this creating more fear, shame, guilt, and anger (Bulmer and Eichler, 2017).

The participants experience also suggest that this journey would always be an ongoing daily management of self-awareness, managing pain, and emotional-physical wellbeing. These particular findings are also identified in research by Caddick et al. (2018) who completed a systematic review on ageing, limb-loss and military veterans who also discuss the implications of poor body image, pain, social isolation, and disability. It was found that rehabilitation and consistency of routine around social and physical activities plays an important key throughout the life course of wounded veterans around quality of life, sustainability, and personal growth (Dharm-Datta *et al.,* 2011; Messinger, 2010). The importance of keeping some physical functioning within recovery and self-management of pain was also confirmed in the analysis that was undertaken around the quality of life for veterans and servicemembers with major traumatic limb loss from Vietnam and OIF/OEF conflicts (Epstein *et al.,* 2010).

6.3.6 Shift Response

A particular 'shift' response has been frequently mentioned within the studies around veteran's rehabilitation, pain and disability but very rarely discussed (Schwartz *et al.,* 2007). This 'shift' response has been documented as a thought perspective that includes pain priority, life adaption and life priorities, which has been especially more observed within veterans with life changing multiple injuries. Within this 'shift' the studies reported that some veterans had found the ability to adapt their thoughts around appreciation for life, developing daily coping abilities, and were self-motivated at rebuilding the new changed self (Rapkin and Schwartz, 2004). However, this 'shift' did not happen directly after injury, but after a number of years of going through loss, becoming more self-aware, and through self-acceptance.

This stage of 'shift' response was also identified by the participants in this study that highlighted experiencing a sense of gratitude for being alive, and to those who saved them. It also put their injuries into perspective when being around other wounded veterans with significant life changing injuries. This 'shift' helped the participants accept the pain and embrace a changed self. With a further personal journey within and around finding meaning in their own pain and suffering. As identified in the literature around meaning focused (2.6.1.3), Frankl (2004) quoted the words of the philosopher Friedrich Nietzsche (Deleuze, 1983) who stated that "*he who has a why to live, can bear almost any how*". The participants findings in this study drew parallel with that powerful statement through creating a new type of mission around life purpose and a life of service (Besemann *et al.,* 2018; Ahern *et al.,* 2015). Using their skills and knowledge from the military and their personal life experiences including their pain, to help others. The participants found that this 'shift' of perspective helped them through their own pain, healing, and recovery (Bridges and Bridges, 2019).

Furthermore, it was recognised within the 'shift' that the psychosocial-spiritual elements within the self is a significant element to the healing process and finding acceptance of the changed self, which is also echoed in the work of Green (2014). Its importance is core to seeking "*ultimate meaning, purpose and transcendence, and experience relationship to self, family, others, community, society, nature and the significant or sacred. Spirituality is expressed through beliefs, values, traditions and practices*" (Puchalski *et al*., 2014, p.2). Besemann *et al.* (2018) highlights the commonalities between palliative care and rehabilitation within the realms of finding meaning within the suffering of pain. His reflections around recovery of wounded personnel and veterans, highlight their reality of having to confront their thoughts, perspectives and what is important to them after being injured. According to Besemann *et al.* (2018, p.11) "*Addressing the spiritual dimension across the military journey is essential if we are to foster resilience, prevent injury, and promote healing wounds at the deepest levels using a whole-person approach*". Furthermore, this spiritual construct is core to understanding the participants experiences around finding meaning in their suffering within the lived recovery journey of pain.

This lived recovery journey that was highlighted by the participants in this study has recognised the need for more understanding and research around the biopsychosocial-spiritual model and its importance within the pain recovery of wounded veterans. Recently the US Department of Defense (DoD) and the VA have reinvented the veterans' model of care, which was traditionally based around the '*find it, fix it'* management through medications and procedures (Krejci *et al.,* 2014). However, the US VA recognised the needs of Iraq and Afghanistan veterans were life long, life changing, complex comorbid injuries that were not being met by traditional medical management (Bokhour *et al.,* 2020). Therefore, the VA have developed the innovative biopsychosocial-spiritual, person centred 'Whole Health Model' of care. Which recognises the importance of redirecting the focus of

health and wellbeing, with a combined complementary and integrative health model. That empowers the individual to make decisions based around '*what is meaningful to you ?*' and '*what really matters to you?*'. Furthermore, from the original recommendations of the Pain Task Force Report (2010) and recent VA care reviews, within the core of the whole health model, is a pain model that is central to the care pathway. Designed to tackle the high level of opioid dependency, addiction, and suicide within the veteran population living with chronic pain. At present the 'Whole Health Model' is within incredibly preliminary and pilot stages of implementation within 18 US VA flagship centres. It includes three components: clinical care, wellbeing and the core pathway (Department of Veterans Affairs, 2019). The core pathway aims to "*engage veterans in their own health care by helping each person reflect on their life and health by exploring their mission, aspiration, and purpose*" (Marchand *et al.*, 2020, p.1).

'The Lived Recovery Journey' is a visual representation of the participants experiences in this study (Figure 19). Its aim is not to create a theory based on the participants lived experience, but to demonstrate a life-long continuous journey of pain recovery, with stages that participants were experiencing, and going through. Some participants found themselves re visiting different stages, depending on life events and pain episodes. The healing aspects of time meant that there was no set time that participants took to go through each fluid stage of this journey. Some stages took longer time to process through for individuals than other stages. When considering the veterans experiences and how they manifested there were some commonalities in how they developed through each stage of recovery.

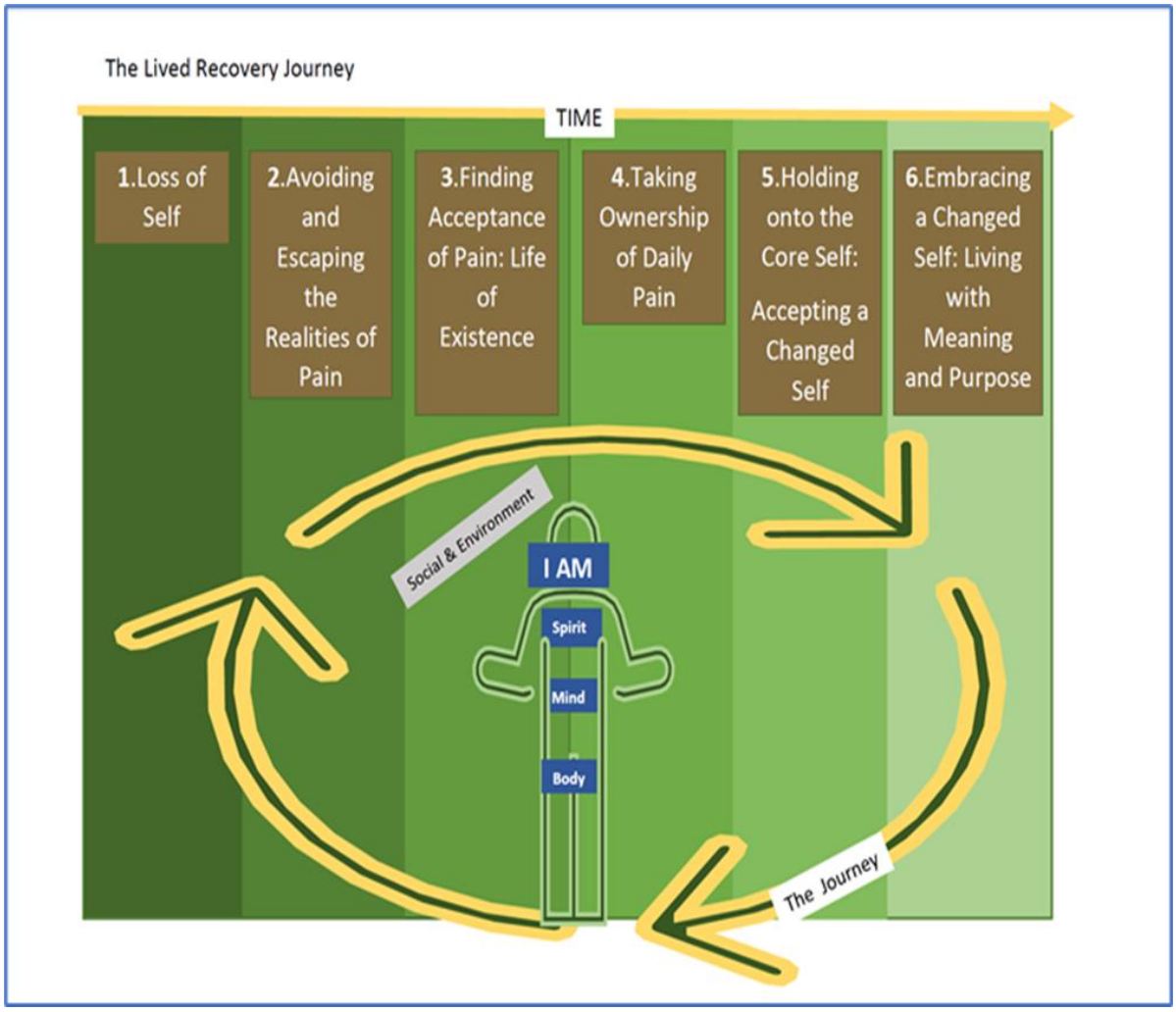


Figure 19: The Lived Recovery Journey

All experienced a sense of loss of self and attempted to avoid or escape the realities of pain. Some were working towards acceptance of pain but found it hard to move from escapism and avoidance. Others were taking ownership of pain but found it difficult to accept a changed self. Only four participants had fully embraced a changed self through adaption and self-growth finding the ability to live their best version of the changed self with meaning and purpose.

These stages illustrated by emotions, coping strategies, and ultimately their sense of self which they struggled to find during the abandonment experienced after wounding, through military care, medical discharge, NHS, and civilian transition. This healing journey also

highlighted the importance of having supportive relationships that were fundamental elements to their recovery process. It could be suggested from these stages that have been highlighted by the participants in this study around the lived recovery journey, that further exploration and research is needed around the veterans' experiences of the chronic pain journey.

6.4 The Importance of Supportive Relationships

The importance of supportive relationships for participants through the recovery journey, was one of the most significant and crucial elements. These experiences by the participants in this study were also highlighted by Sturgeon and Zautra's (2010) paradigm adaption to chronic pain. Which found that individual resiliency and ability to cope in the face of adversity has also been identified within the capacity of the support of loved ones, families, team-mates, neighbours, communities, healthcare professionals; and support mechanisms such as charities and military associations. The importance of social relationships, engagement and social interaction can also be the difference between coping or not coping with their pain, life changing injuries and surviving in daily life (Gorman *et al.*, 2019; Burke and Utley, 2013). Research has shown that individuals who are able to sustain social relationships not only demonstrate the ability to adapt to higher levels of pain, but they are also more likely to ask for help, and secure social and healthcare support (Wright, Zautra, Going, 2008; and Davis *et al*., 2006).

In parallel with the experiences of participants in this study; further new findings within the TRIAD study by Palmer *et al.* (2021) has also confirmed that the role of supportive relationships with veterans has also been equally important with veterans experiencing post-traumatic stress from the exposures of Iraq and Afghanistan. The mixed method study found that specific protective factors from personal networks became more highly influential than

health or social support mechanisms, especially when trying to access specialist care (Hatch *et al.*, 2013). Furthermore, these supportive relationships helped to prevent deteriorations in mental health outcomes. They were able to identify early changes to daily life responses, personality and behaviours of individuals that were vulnerable of isolation and at risk of suicidal elements. Engward, Fleuty and Fossey (2018) also identified that the supportive roles that loved ones and families take, can also be seen to also to vary and adapt in a timely and relevant manner. Dependent on the individuals needs for care, emotional support, and ability to cope daily. Furthermore, their research identified a limb loss recovery process, which was presented as living with limb loss support model (LLSM) (ibid, 2018; P. 18). That at distinct times during stages of limb loss recovery, supportive relationships and interventions were also most likely to be successful. Thus, creating a lasting effect on recovery, quality of life and impacting how individuals were able to cope with daily life. This model highlighted parallels with participants experiences of supportive relationships within this study around their lived recovery journey (6.3), is particularly significant for healing and recovery.

Furthermore, Fossey and Hacker-Hughes (2014) identified that within the UK, it is not usual practice for families or loved ones to be actively involved within the rehabilitation process of serving personnel and veterans. Which meant that the importance of the long-term care support and needs of individual, or how families and loved ones can support the outcomes for healing and recovery at home are not being addressed or highlighted. These concerns were also highlighted in the Veterans Strategy (2019) around the long-term needs of wounded veterans with complex care needs. That identified urgent support needed to help families or loved ones who are providing vital physical and emotional care.

It was found that those veterans that had less supportive relationships were at higher risk of social vulnerability and isolation (Ahern *et al.*, 2015). This was particularly the difference

for participants in this study between struggling with depression and pain, or the willingness to accept pain, or the ability to embrace a changed self. Creating significant impact on daily coping with pain. Meaning that the participants were seeking other ways to cope and were at high risk of using avoidance coping mechanisms such as self-isolation, forms of escapisms such as high-level pain medications, alcohol, and illegal drug use. Which is consistent with the literature and research by Sturgeon and Zautra (2010) within the realms of adaption, resilience, and acceptance of chronic pain (which is discussed in the lived recovery journey, 6.3).

6.5 Conclusion

The aim of this chapter was to discuss the findings in relation to the research and how they related to the wider literature. Three themes were identified: Abandoned: Bridging the Gaps in Care; The Veterans Lived Recovery Journey; and The Importance of Supportive Relationships.

Abandonment and bridging the gaps in care, highlighted the challenges that participants faced with inconsistencies in medical care throughout their journey from the point of wounding on the battlefield/ combat medic to major military trauma hospital outside of war zone/ home country. Participants identified that their sense of belonging had been taken from them, leaving them further without any sense of personal control around their careers, injuries, and pain

A unique and significant finding was also highlighted by the participants in this study, called 'the lived recovery journey' that included the participants experiences of loss, self-awareness and finding acceptance. Which also highlighted the participants experiences of trying to manage medications and opioid addiction alone without support.

Supportive relationships for wounded veterans were found to be a significant element to their whole recovery journey and with trying to manage daily pain. The impact of supportive relationships whether it be family, loved ones, healthcare, support mechanisms was the difference between recovery, coping and experiencing personal growth; or experiencing fear, avoidance, and a life of existence.

Furthermore, this chapter identified the need for further research around the lived experiences within the lived recovery journey, veterans pain experiences, and experiences of using long term opioid medications. Also, the discussion re-confirmed the significant gaps in research within UK veterans care, veterans care pathways, healthcare education and training around veterans' care, and comorbid conditions, which was first highlighted within the literature review (2.0).

Chapter Seven: Conclusion

7.0 Chapter Seven: Conclusion

7.1 Introduction

This chapter brings together the main concluding points from the thesis, highlights the diverse ways in which the work has contributed to knowledge, and discusses the limitations of the research. Implications for policy and practice are also discussed.

7.2 Contribution to Knowledge

According to Gill and Dolan (2015) to inform the present topic area being explored, contribution to knowledge is achieved a number of ways, which can result in the importance of providing originality and 'new knowledge'. This section will discuss the particular areas that highlighted 'new knowledge' within this study that was identified within the critical reflective journey of the PhD that included: the literature around this topic area, the use of the IPA approach; the type of participants used and the recruitment methods; the use of visual aids within the analysis process; the findings; and the discussion.

The literature review revealed significant gaps around the lived experiences of 21st combat veterans injured in conflict living with chronic pain. It was found that there was a general lack of research around UK veterans pain research. This highlighted the need for a broader literature search to include research from the four main military countries (US, UK, Canada, and Australia) that were at the forefront of the Iraq and Afghanistan conflicts. The importance of this was to complete an in-depth search around the topic area to fully understand the complexities of these life changing injuries, the experiences of daily pain, and the wider implications of these injuries. It was important to be fully aware of the existing area of knowledge within the wider military and veterans pain literature. To also explore how and where in the topic area each country has directed their military and veteran

research. This was to provide a better understanding of the gaps in research within and around the topic of chronic pain, and veterans with battlefield injuries. Providing full awareness of the present literature and the gaps within the literature that was identified. The importance of identifying these gaps will highlight further implications and recommendations for future explorations and research.

The present literature highlighted particular recommendations around the need to explore veterans pain experiences. That included research around their daily experiences of pain, how they cope, and how they manage pain. A broader literature search around veterans' healthcare revealed significant gaps within the recovery journey, veterans' healthcare systems, accessing healthcare, military discharge, the NHS transition of care, military transition, the NHS. With further gaps around veterans' experiences of battlefield injuries, managing comorbid mental and physical conditions with pain, and pain management which included opioid addiction. Furthermore, the literature search highlighted that within the UK a significant amount of military and veterans research had focused highly on mental health, with little research around veterans and pain.

There is a sizeable number of veterans literature within the realms of quantitative research approaches, and systematic reviews. The recommendations from the research highlighted a further need for more explorative research, which is enriched and meaningful that captures the lived experiences. Canada's Veterans Research Centre of Excellence for Chronic Pain also identified a significant need in 2020 for more personally enriched data from veteran's experiences to be incorporated into veterans' research.

Three grounded theory approaches were identified within the literature review, however, to best answer the research question a qualitative phenomenological approach such as Interpretative Phenomenological Analysis (IPA) was adopted. This type of approach has

rarely been used within military or veterans research, but it explores the concept of meaning through rich, in-depth personal lived experiences. The aim of this approach is not to answer a question, hypothesis or create a theory like the grounded theory approach; but to merely explore the rich, unique, in-depth, and meaningful lived experiences of participants in this hard-to-reach group.

Participants in this study are UK wounded veterans of the Iraq and Afghanistan conflicts, who sustained battlefield injuries. These participants served within the three branches of the military (British Army, Royal Air Force, and the Royal Navy/Royal Marines), and within the elite special forces. Furthermore, their nationalities not only covered the UK countries of Scotland, England, Ireland, and Wales; also, two participants had served under the UK forces from within the British Commonwealth countries of Fiji and South Africa. This population of UK military veterans are difficult to engage with, and because of this they are normally only accessible to those within the military circle. These participants particularly find it difficult to talk to anyone about their life changing injuries and pain experiences. However, they were willing to trust and share their experiences through in-depth interviews, because their hope was that this study will better inform present and future research, through providing their lived experiences in creating awareness, understanding and knowledge within this area of veterans' pain research and veterans' care.

This IPA study used a homogenous (purposive) sample which came from within the UK's veteran community. Which also transformed into a unique rolling snowballing effect based on the first three participants communicating and nominating other wounded veterans within their social groups to step forward, from within the wounded veteran's community. Therefore, the participants themselves were indirectly actively involved with recruiting those who they felt could make a significant contribution, through their lived experiences.

Within the analysis phase and during the development of the emerging themes, creative visuals were used from coloured post-It notes that represented each participant which brought a deeper level of embodiment to the analysis process. Also, with exploring patterns and themes, which were emerging from within and around the hermeneutic circle of meaning. The coloured post-It notes were also used to create visual maps and helped with developing more innovative interpretation around these emerging themes. This technique was used repeatedly especially between steps 6 through to eight of the data analysis process. This was also an effective technique to use for discussing with the supervisory team, on how the analysis process was conducted using the IPA analysis steps, how the themes were explored further, and the process taken in developing the superordinate themes. Furthermore, this creative idea was used as part of the reflective elements of this journey, as a way of developing broader ideas for the study and within the realms of critical thinking.

The participants findings highlighted five superordinate themes and twenty subthemes that were identified through the IPA analysis process. However, through further circles of analysis, critical thinking, and reflective process. The connected meaning of the superordinate themes and sub themes identified three main themes: Abandoned: Bridging the Gaps in Care; Veterans Lived Recovery Journey; and The Importance of Supportive Relationships. These themes are discussed in this chapter, in relation to the present literature.

7.3 Implications for Policy and Practice

Gaining in depth insight into the experiences of UK injured veterans has emphasised the urgent need to provide greater specialised support to meet the health and wellbeing needs of veterans struggling and living with chronic pain. There is a need to further explore the current coping strategies and future healthcare pathways which have shown to be inadequate.

Veterans are a under researched group and the complexity of their experiences and healthcare needs are largely underestimated.

It is envisaged that this research has helped to identify the long-term challenges that veterans experience through their lived recovery journey. There is no quick fix approach and there is a need for greater investment to support veterans on their recovery journeys. The open and honest accounts which have been explored provide insights needed for a group who often find it had to tell their stories.

The findings and the discussion of the study highlighted the need for bridging the gaps in care that were identified at post role 4, military medical discharge to the NHS, within the NHS, and long-term recovery. This study has recognised the need for further understanding of the lived experiences of chronic pain, through further qualitative research, to better inform the present strategies and policies around veterans care, health and wellbeing, such as 'Strategy for Our Veterans' (2019) and also the Community Covenant.

Furthermore, an up-to-date care review of the NHS around veterans' care is suggested, around the care pathways and accessing healthcare and pain services. To better understanding of how each NHS health board are achieving their commitment to the Community Covenant. Within the areas of recovery, rehabilitation, GP services, long term care and especially pain services.

The literature review and the findings highlighted the need for healthcare training around caring for veterans and understanding veterans' experiences of pain. This could be a modular online course or taught training with organisation that support veterans. Particularly useful would-be modules focused on military values, standards, and culture; military identity; how veterans cope with pain; accessing hard to reach veterans; the comorbid health conditions

around physical and mental health; how to support veterans to manage pain; collaborative working and signposting to multi-disciplinary teams/ charities such as Help for Heroes and BLESMA.

Having a biopsychosocial-spiritual model of care for veterans needs to be explored, with a combined pain model. The biopsychosocial-spiritual elements were highlighted within the literature review, within the findings, and the veterans lived recovery journey. The US 'Whole Health Model' is relatively new care concept and strategy to the VA healthcare system. However, the trials that have reviewed the care model within clinical practice have found significant changes within how veterans care is being over viewed, and the importance of veterans being forefront to their own care decisions. Furthermore, the whole pain model also identified a significant drop in the use of opioids, lower level of addiction and numbers of suicide in the VA community. The importance of this type of model is that it can be transferred from role 4, on medical discharge and within long term care. Which would further support the person centre care planning and care plans that are transferrable within any level of military/civilian healthcare and community care.

What was found within the literature that highlighted the need for further awareness and clinical management was the impact of chronic pain on comorbid health conditions. It was found that within mental health care, physical health conditions and particularly pain are not recognised, identified, or treated. Therefore, a whole health model could be suggested as an implemented tool to manage the care of veterans with comorbid conditions and chronic pain. Meaning that person centred care plans are then transferrable over any nursing speciality, any nursing care need of the individual and creating a continuum of effective care.

Participants highlighted their experiences of using long term opioid medications and the impact these had on their daily lives, for many creating addictive outcomes. Therefore,

clinical management of pain needs to be further explored in UK veterans that include post-operative pain and polytrauma injuries. Earlier prevention was identified within the literature, but with long term multimodal approach to managing daily pain.

7.4 Study Limitations

Transferability: -The sample size was small, which was consistent with the IPA approach and for the collection of in-depth qualitative accounts by participants. The aim of this study was not to offer a generalisable sample and cannot be assumed that the participants in this study represent all the UK wounded veterans living with chronic pain. However, from the rich and meaningful narratives that were analysed by the participants. The high level of similarity within the participants narratives can be suggestive that the findings are representative of the wider UK wounded veterans with battlefield injuries, which were injured in Iraq and Afghanistan, living with chronic pain.

Recruitment:- With participants coming from a hard-to-reach group, recruitment was accomplished by the participants own internal snowballing effect from within the wounded veteran's community. However, this did not come without limitations, because participants were nominating other veterans, they knew either from service or from their time within the military hospitals. Which meant that they did not always fit the criteria for this study. For example, they may have sustained non-battlefield injuries during deployment; or their injuries prevent them from being able to speak, meaning that a carer or loved has to speak for them; they may have developed mental health and Post Traumatic Stress Disorder as their main injuries without physical injuries; they may have sustained battlefield injuries pre-2000 in conflicts such as Northern Ireland, Falklands, the Balkan Conflict, and World War II. There were eight individuals that wanted to participate in this study however based on the examples shared above around the exclusion criteria, this was beyond the scope of this

study. However, their lived experiences are still integral part to the wider need for further understanding around veterans' pain experiences, and therefore will be highlighted for further research.

Data Collection: The first phase of the interviews was conducted as part of a broader study and not conducted with a main phenomenological focus. However, the richness and meaningful content of the participants narratives were appropriate for IPA. Further interviews were conducted with an IPA approach, and all interviews were analysed together using IPA data analysis steps by Smith, Flowers, and Larkin (2009).

7.5 Suggestions for Future Research

Further exploration research for developing a strategy of a whole health model of care for UK wounded veterans and a whole pain management model based on a person centred, biopsychosocial-spiritual approach, which is holistic, complementary, and integrative medicine. It is suggested that this model could be transferable between the military, NHS, and community care services.

The recruitment process in this study identified participants that did not meet the inclusion criteria and to research their lived experiences would be beyond the scope of this PhD. Further separate research is needed to explore their lived experiences of chronic pain. Leading to possible comparative research from all the identified veteran population groups. Such as those that have sustained non-battlefield injuries during deployment; those with complex injuries- where their injuries prevent them from being able to speak, meaning that a carer or loved has to speak for them; veterans that have mental health and Post Traumatic Stress Disorder as their main primary injuries without physical injuries; they may have

sustained battlefield injuries pre-2000 in conflicts such as Northern Ireland, Falklands, the Balkan Conflict, World War II, and those wounded in service.

The discussion chapter highlighted the Lived Recovery Journey, further exploration around this, may help highlight a particular pattern of changes that veterans experience after life changing injuries and trying to manage daily pain. A comparative study within neurorehabilitation or trauma would be beneficial. To explore whether trauma patients also experience the same pattern of personal changes, when facing life changing injuries and living with chronic pain. The outcome of these future research ideas could support healthcare and patients with understanding the phases of loss, self-awareness, and pain acceptance.

Music and visualisation were mentioned within the findings chapter as a form of escapism or distraction for those struggling with chronic pain. Based on the participants experiences of using music and visualisation as a form of coping and managing daily pain. Further research around these areas could support within the overall daily management of pain, and within the realms of healing and recovery.

7.6 Concluding Remarks

The purpose of this study was to capture a unique, rich, and meaningful insight into an under-researched population, that are hard to reach and access, from outside of the military community. Significant gaps in literature identified a need for more enriched research around veterans' pain experiences. With significant gaps in research within UK veterans care, veterans care pathways, healthcare education and training around veterans' care, and comorbid conditions.

An Interpretative Phenomenological Analysis (IPA) approach was identified to best answer the research question: "*What are the lived experiences of 21st century combat veterans with chronic pain, secondary to combat injury?*".

The participants findings identified five superordinate themes and 20 subthemes from their lived experiences. However, overall, three significant themes were identified during the discussion: Abandoned: Bridging the Gaps in Care; The Veterans Lived Recovery Journey; and The Importance of Supportive Relationships.

Suggestions for future research includes exploration research for developing a strategy for a transferable whole health model of care and pain for UK wounded veterans, which includes a biopsychosocial-spiritual model of care. The importance of this is to combine the person-centred approach, what is meaningful to the individual, and how to best support the individual. Further qualitative research is needed around broader veterans' pain experiences; and further exploration around the lived recovery journey that highlights the participants experiences of loss, self-awareness, and self-acceptance. Helping healthcare providers better understand veterans' experiences of pain and to inform the development of the whole health model.

Therefore, this study highlights the lived experiences of 21st century UK veterans that have sustained battlefield injuries and are living with chronic pain. A unique insight into the raw and meaningful lives of our wounded. This study identified further gaps in qualitative research in military and veterans pain experiences, which have also been recommended for future studies.

References

References

ACA (2011) *The Recovery Process*. U.S Army Amputee Patient Care Program.

Adams, R.S., Meerwijk, E.L., Larson, M.J. *et al.* (2021)Predictors of Veterans Health Administration utilization and pain persistence among soldiers treated for postdeployment chronic pain in the Military Health System. *BMC Health Serv Res* **21,** 494. https://doi.org/10.1186/s12913-021-06536-8

Adams, R., Larson, M., Meerwijk, E., Williams, T., & Harris, A. (2019). Postdeploymentpolytrauma diagnoses among soldiers and veterans using the veterans health affairs polytrauma system of care and receipt of opioids, nonpharmacologic, and mental health treatments. *J Head Trauma Rehabil, 34*(3), 167-175. doi:10.1097/htr.0000000000000481.

Agimi, Y., Marion, D., Schwab, K., & Stout, K. (2021). Estimates of Long-Term Disability Among US Service Members With Traumatic Brain Injuries. *The Journal of head trauma rehabilitation*, *36*(1), 1–9. https://doi.org/10.1097/HTR.0000000000000573

Ahern J, Worthen M, Masters J, Lippman SA, Ozer EJ, Moos R. The challenges of Afghanistan and Iraq veterans' transition from military to civilian life and approaches to reconnection. *PLoS ONE*. (2015) 10:e0128599. doi: 10.1371/journal.pone.0128599

Aldington, D., & Kerns, R. (2011). Battlefield to bedside to recovery. *International Association for Pain Relief, 19*(5).

Aloi J. A. (2011). A theoretical study of the hidden wounds of war: disenfranchised grief and the impact on nursing practice. *ISRN nursing*, *2011*, 954081. https://doi.org/10.5402/2011/954081

Allen, C. (2018) *Stopping the poison pills: combatting the trafficking of illegal fentanyl from China. Statement before the United States Senate Caucus on International Narcotic Control, October 2, 2018.* Available at https://www.drugcaucus.senate.gov/sites/default/files/FINAL%20ICE%20Allen%20-%20China%20Fentanyl%20Testimony.pdf

Alschuler, K. N., & Otis, J. D. (2012). Coping strategies and beliefs about pain in veterans with comorbid chronic pain and significant levels of posttraumatic stress disorder symptoms. *European journal of pain (London, England)*, *16*(2), 312–319. https://doi.org/10.1016/j.ejpain.2011.06.010

Amirni, R. (2018). Addiction v medication: The dilemma impacting veterans. Retrieved from https://www.military.com/benefits/veterans-health-care/medications-and-addiction.html

Andelic, N., Ye, J., Tornas, S., Roe, C., Lu, J., Bautz-Holter, E., Moger, T., Sigurdardottir, S., Schanke, A. K., & Aas, E. (2014). Cost-effectiveness analysis of an early-initiated, continuous chain of rehabilitation after severe traumatic brain injury. *Journal of neurotrauma*, *31*(14), 1313–1320. https://doi.org/10.1089/neu.2013.3292

Appleyard, B. (2008). *How to live forever or die trying: On the new immortality*. UK: Simon & Schuster.

Armstrong, M., Champagne, J., & Mortimer, D. (2019). Department of Veterans Affairs polytrauma rehabilitation centers: Inpatient rehabilitation management of combat-related polytrauma. *Phys Med Rehabil Clin N Am, 30*(1), 13-27. doi:10.1016/j.pmr.2018.08.013.

Ashrafioun, L., Kane, C., Bishop, T., Britton, P., & Pigeon, W. (2019). The Association of Pain Intensity and suicide attempts among patients initiating pain specialty services. *J Pain, 20*(7), 852-859. doi:10.1016/j.jpain.2019.01.012.

Ashrafioun, L., Zerbo, K., Bishop, T., & Britton, P. (2020). Opioid use disorders, psychiatric comorbidities, and risk for suicide attempts among veterans seeking pain care. *Psychol Med, 50*(12), 2107-2112. doi:10.1017/s0033291719002307.

Asmundson, G., & Katz, J. (2009). Understanding the co-occurrence of anxiety disorders and chronic pain: state-of-the-art. *Depress Anxiety, 26*(10), 888-901. doi:10.1002/da.20600.

Atuel, H., Chesnut, R., Richardson, C., Perkins, D., & Castro, C. (2020). Exploring moral injury: Theory, measurement, and applications. *Military Behavioral Health, 8*(3), 248-255. doi:10.1080/21635781.2020.1753604.

Australian Government Department of Defence Department of Veterans' Affairs. (2015). *Australian Gulf War veterans' follow up health study*. Canberra, ACT Retrieved from https://www.dva.gov.au/documents-and-publications/australian-gulf-war-veterans-follow-health-study.

Australian Government Department of Defence Department of Veterans' Affairs. (2017a). *Annual reports 2016-17*. Canberra, ACT Retrieved from https://www.dva.gov.au/documents-and-publications/annual-reports.

Australian Government Department of Defence Department of Veterans' Affairs. (2017b). *Teaming up against chronic pain*. Canberra ACT Retrieved from https://www.veteransmates.net.au/documents/10184/42676/Sept-2017_TherBrief-Insert.pdf/b3916812-807b-48e8-ae4a-8e91134e4637.

Australian Government Department of Defence Department of Veterans' Affairs. (2018). *Annual reports 2017-18*. Canberra, ACT Retrieved from https://www.dva.gov.au/documents-and-publications/annual-reports.

Australian Government Department of Defence Department of Veterans' Affairs, & Department of Health. (2017). *Australian Government response to the National Mental Health Commission review into the suicide and self-harm prevention services available to current and former serving ADF members and their families.* Canberra, ACT Retrieved from https://www.dva.gov.au/health-and-treatment/injury-or-health-treatments/national-mental-health-commission-review.

Australian Government Department of Foreign Affairs Defence and Trade Committee. (2016). *Mental health of Australian Defence Force members and veterans*. Canberra, ACT. Retrieved from https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Foreign_Affairs_Defence_and_Trade/ADF_Mental_Health/Report.

Australian Government Institute of Health and Welfare. (2005). *Cancer incidence in Australian Vietnam Veterans study 2005*. Canberra, ACT Retrieved from https://www.aihw.gov.au/reports/veterans/cancer-australian-vietnam-veterans-study-2005/contents/executive-summary.

Australian Government Institute of Health and Welfare. (2018a). *Australia's health 2018*. Canberra, ACT: AIHW. Retrieved from: https://www.aihw.gov.au/reports/australias-health/australias-health-2018/contents/table-of-contents

Australian Government Institute of Health and Welfare. (2018b). *Causes of death among serving and ex-serving Australian Defence Force personnel: 2002–2015*. Canberra, ACT: AIHW. Retrieved from: https://www.aihw.gov.au/reports/veterans/causes-of-death-in-adf-personnel-2002-2015/contents/summary

Australian Government Institute of Health and Welfare. (2018c). *Development of a veteran-centred model: a working paper*. Canberra, ACT: AIHW Retrieved from https://www.aihw.gov.au/reports/veterans/development-veteran-centred-model-working-paper/contents/summary.

Australian Government Institute of Health and Welfare. (2020h). *National suicide monitoring of serving and ex-serving Australian Defence Force personnel: 2020 update*. Canberra, ACT: AIHW. Retrieved from: https://www.aihw.gov.au/reports/veterans/national-suicide-monitoring-adf-2020

Aydede, M. (2019). Does the IASP definition of pain need updating? *PAIN Reports, 4*(5), e777. doi:10.1097/pr9.0000000000000777. Retrieved from https://journals.lww.com/painrpts/Fulltext/2019/10000/Does_the_IASP_definition_of_pain_need_updating_.8.aspx

Babbie, E. (201). *The practice of social research.* (12th ed.). Belmont, USA: Wadsworth.

Bair, M., Ang, D., Wu, J., Outcalt, S., Sargent, C., Kempf, C., Froman, A., Schmid, A., Damush, T., Yu, Z., Davis, L., & Kroenke, K. (2015). Evaluation of stepped care for chronic pain (ESCAPE) in veterans of the Iraq and Afghanistan conflicts: A randomized clinical trial. *JAMA Internal Medicine, 175*(5), 682-689. doi:10.1001/jamainternmed.2015.97.

Baltar, F. and Brunet, I. (2012), "Social research 2.0: virtual snowball sampling method using Facebook", *Internet Research*, Vol. 22 No. 1, pp. 57-74. https://doi.org/10.1108/10662241211199960

Banerjee, G., Edelman, E. J., Barry, D. T., Crystal, S., Gordon, K. S., Gordon, A. J., Gaither, J. R., Green, T. C., Kerns, R. D., Manhapra, A., Moore, B. A., Fiellin, D. A., & Marshall, B. (2019). High-dose prescribed opioids are associated with increased risk of heroin use among United States military veterans. *Pain, 160*(9), 2126–2135. https://doi.org/10.1097/j.pain.0000000000001606

Banerjee, G., Edelman, E., Barry, D., Becker, W., Cerdá, M., Crystal, S., Gaither, J., Gordon, A., Gordon, K., Kerns, R., Martins, S., Fiellin, D., & Marshall, B. (2016). Non-medical use of prescription opioids is associated with heroin initiation among US veterans: a prospective cohort study. *Addiction, 111*(11), 2021-2031. doi:10.1111/add.13491.

Bardi, A., Jaspal, R., Polek, E., & Scwartz, S. (2014). Values and identity process theory: Theoretical integration and empirical interactions. In R. Jaspal & G. Breakwell (Eds.), *Identity Process Theory: Identity, Social Action and Social Change*. Cambridge, UK: Cambridge University Press.

Baria, A. M., Pangarkar, S., Abrams, G., & Miaskowski, C. (2019). Adaption of the Biopsychosocial Model of Chronic Noncancer Pain in Veterans. *Pain medicine (Malden, Mass.), 20*(1), 14–27. https://doi.org/10.1093/pm/pny058

Barry, P., O'Callaghan, C. (2008) Reflexive Journal Writing, Nordic Journal of Music Therapy, 17:1, 55-66, DOI: 10.1080/08098130809478196

Beckford, M., & Ellis, C. (2013). Developing nursing curriculum to facilitate the delivery of holistic care to the military veteran. *Open Journal of Nursing, 03,* 400-403. doi:10.4236/ojn.2013.35054.

Bennett, A. S., Elliott, L., Golub, A., Wolfson-Stofko, B., & Guarino, H. (2017). Opioid-Involved Overdose Among Male Afghanistan/Iraq-Era U.S. Military Veterans: A Multidimensional Perspective. *Substance use & misuse*, *52*(13), 1701–1711. https://doi.org/10.1080/10826084.2017.1306563

Bennett, A., Elliott, L., & Golub, A. (2015). Veterans' Health and opioid safety-contexts, risks, and outreach implications. *Federal practitioner : for the health care professionals of the VA, DoD, and PHS, 32*(6), 4-7.

Bennett, A. S., Elliott, L., & Golub, A. (2013). Opioid and other substance misuse, overdose risk, and the potential for prevention among a sample of OEF/OIF veterans in New York City. *Substance use & misuse*, *48*(10), 894–907. https://doi.org/10.3109/10826084.2013.796991

Besemann, M., Hebert, J., Thompson, J., Cooper, R., Gupta, G., Brémault-Phillips, S., & Dentry, S. (2018). Reflections on recovery, rehabilitation and reintegration of injured service members and veterans from a bio-psychosocial-spiritual perspective. *Can J Surg, 61*(6), S219-s231. doi:10.1503/cjs.015318.

Beuchamp, T., & Childress, J. (2013). *Principles of biomedical ethics* (7th ed.). Oxford, USA: Oxford University Press.

Bevers, K., Watts, L., Kishino, N., & Gatchel, R. (2016). The biopsychosocial model of the assessment, prevention, and treatment of chronic pain. *US Neurology, 12*, 98. doi:10.17925/USN.2016.12.02.98.

Blackburn, D. (2017). Out of uniform: psychosocial issues experienced and coping mechanisms used by veterans during the military–civilian transition. *Journal of Military, Veteran and Family Health, 3*(1), 62-69. doi:10.3138/jmvfh.4160.

Blakey, S., Wagner, H., Naylor, J., Brancu, M., Lane, I., Sallee, M., Kimbrel, N., & Elbogen, E. (2018). Chronic pain, TBI, and PTSD in military veterans: A link to suicidal ideation and violent impulses? *J Pain, 19*(7), 797-806. doi:10.1016/j.jpain.2018.02.012.

Binks, E., & Cambridge, S. (2018). The Transition of British Military Veterans. Political Psychology, 39(1), 125-142.

Bob Woodruff Foundation (2016) *Intimacy After Injury*. Retrieved from https://bobwoodrufffoundation.org/wp-content/uploads/2016/10/Intimacy-After-Injury-Report.pdf

Bokhour, B., Haun, J., Hyde, J., Charns, M., & Kligler, B. (2020). Transforming the veterans affairs to a whole health system of care: Time for action and research. *Med Care, 58*(4), 295-300. doi:10.1097/mlr.0000000000001316.

Bonica, J. (1990). History of pain concepts and therapies. In *The management of pain* (2nd ed.), (pp. 7). London U.K: Lea & Febiger.

Bonica, J.J (1990) *The management of pain*.2ed. Vol 1. London: Lea & Febiger, 1990. History of pain concepts and therapies.

Bonica, J. (1953) *The Management of Pain*. Philadelphia, Lea & Febiger

Bosco, M., Murphy, J., & Clark, M. (2013). Chronic pain and traumatic brain injury in OEF/OIF service members and veterans. *Headache: The Journal of Head and Face Pain, 53*(9), 1518-1522. doi:10.1111/head.12172.

Bostridge, M. (2015). Florence Nightingale: The woman and her legend. Penguin.

Breen, H., & Jones, M. (2015). Experiential learning: using virtual simulation in an online RN-to-BSN program. *J Contin Educ Nurs, 46*(1), 27-33. doi:10.3928/00220124-20141120-02.

Brencio, F. (2015). Sufferance, freedom and meaning: Viktor Frankl and Martin Heidegger. 217-246.

Brewer, J. (2000). *Ethnography*. New York, USA: McGraw-Hill Education.

Brewer, N., & Turrise, S. (2019). Nurses' knowledge and treatment beliefs: Use of complementary and alternative medicine for pain management. *37*(3), 248-259. doi:10.1177/0898010118822212.

Bricknell, M. (2014). For Debate: The Operational Patient Care Pathway. Journal of the Royal Army Medical Corps, 160(1), 64-69.

Bricknell, M., & Nadin, M. (2017). Lessons from the organisation of the UK medical services deployed in support of Operation TELIC (Iraq) and Operation HERRICK (Afghanistan). *J R Army Med Corps, 163*(4), 273-279. doi:10.1136/jramc-2016-000720.

Bridges, W. & Bridges, S. (2019) *Transitions: Making Sense of Life's Changes*. LifeLong Books.

Briggs, T. (2014). The chavasse report. *The Bulletin of the Royal College of Surgeons of England, 96*(10), 340-342. doi:10.1308/147363514x14042954770076.

Brown, N.D (2008) *Transition from the Afghanistan and Iraqi battlefields to home: an overview of selected war wounds and the federal agencies assisting soldiers regain their health*. AAOHN J. 2008: 56 (8): 343-346.

Brown, G., & Nicassio, P. (1987). Development of a questionnaire for the assessment of active and passive coping strategies in chronic pain patients. *Pain, 31*(1), 53-64. doi:10.1016/0304-3959(87)90006-6.

Brunger, H., Serrato, J., & Ogden, J. (2013). "No man's land": the transition to civilian life. *Journal of Aggression, Conflict and Peace Research, 5*(2), 86-100. doi:10.1108/17596591311313681.

Bryman, A. (2016) *Social Research Methods* OUP Oxford; 5th edition

Buchmann, J., Baumann, N., Meng, K., Semrau, J., Kuhl, J., Pfeifer, K., Kazén, M., Vogel, H., & Faller, H. (2021). Endurance and avoidance response patterns in pain patients: Application of action control theory in pain research. *PloS one*, *16*(3), e0248875. https://doi.org/10.1371/journal.pone.0248875

Buckenmaier, C. C., 3rd, Galloway, K. T., Polomano, R. C., McDuffie, M., Kwon, N., & Gallagher, R. M. (2013). Preliminary validation of the Defense and Veterans Pain Rating Scale (DVPRS) in a military population. *Pain medicine (Malden, Mass.)*, *14*(1), 110–123. https://doi.org/10.1111/j.1526-4637.2012.01516.x

Buckenmaier, C., & Griffith, S. (2010). Military pain management in 21st century war. *Mil Med, 175*(7 Suppl), 7-12. doi:10.7205/milmed-d-10-00172.

Buckenmaier, C., & Bleckner, L. (2008). MILITARY ADVANCED REGIONAL ANESTHESIA AND ANALGESIA HANDBOOK. Borden Institute Walter Reed Army Medical Center, Washington, DC

Buckenmaier, C., Lee, E., Shields, C., Sampson, J., & Chiles, J. (2003). Regional anesthesia in austere environments. *Reg Anesth Pain Med, 28*(4), 321-327. doi:10.1016/s1098-7339(03)00198-6.

Buckenmaier, C., Rupprecht, C., McKnight, G., McMillan, B., White, R., Gallagher, R., & Polomano, R. (2009). Pain following battlefield injury and evacuation: a survey of 110 casualties from the wars in Iraq and Afghanistan. *Pain medicine (Malden, Mass.), 10*(8), 1487-1496. doi:10.1111/j.1526-4637.2009.00731.x.

Buckley, J. (2002). Holism and a health-promoting approach to palliative care. *International Journal of Palliative Nursing, 8*(10), 505-508. doi:10.12968/ijpn.2002.8.10.10697.

Bulmer, S. & Eichler, M (2017). Unmaking militarized masculinity: veterans and the project of military-to-civilian transition, Critical Military Studies, 3:2, 161-181, DOI: 10.1080/23337486.2017.1320055

Burt, J., Roland, M., Paddison, C., Reeves, D., Campbell, J., Abel, G., & Bower, P. (2012). Prevalence and benefits of care plans and care planning for people with long-term conditions in England. *Journal of health services research & policy, 17 Suppl 1,* 64–71. https://doi.org/10.1258/jhsrp.2011.010172

Burke, S. M., & Utley, A. (2013). Climbing towards recovery: investigating physically injured combat veterans' psychosocial response to scaling Mt. Kilimanjaro. *Disability and rehabilitation*, *35*(9), 732–739. https://doi.org/10.3109/09638288.2012.707743

Butler, D., & Mosley, G. (2013). *Explain pain* (2nd. ed.): Adelaide City West, South Australia: Noigroup Publications.

Butler, L., Linn, B., Meeker, M., McClain-Meeder, K., & Nochajski, T. (2015). "We don't complain about little things": Views of veterans and military family members on health care gaps and needs. *Military Behavioral Health, 3*(2), 116-124. doi:10.1080/21635781.2015.1009209.

Byock, I. (1997). *Dying well: The prospect for growth at the end of life*. Putnam U.K: Riverhead.

Caddick, N., McGill, G., Greaves, J., & Kiernan, M. D. (2018). Resisting decline? Narratives of independence among aging limbless veterans. *Journal of aging studies, 46,* 24–31. https://doi.org/10.1016/j.jaging.2018.06.002

Canadian Government Department of Veterans Affairs. (2017). *Veterans' identities and well-being in transition to civilian life – A resource for policy analysts, program designers, service providers and researchers*. Ottawa, ON Retrieved from https://www.veterans.gc.ca/eng/about-vac/research/research-directorate/publications/reports/identities-transition-civil-life.

Carless, D., & Douglas, K. (2017) When Two Worlds Collide: A Story About Collaboration, Witnessing, and Life Story Research with Soldiers Returning from War. Qualitative Inquiry, Volume: 23 issue: 5, page(s): 375-383. https://doi.org/10.1177/1077800416660579

Carter, C. (2015) How do you recognise a veteran?. *Nursing Standard*, Vol 29, Iss 30. DOI:10.7748/ns.29.30.30.s30

Carter, C. (2018). How do you recognise a veteran?. *Journal of perioperative practice*, *28*(11), 302–303. https://doi.org/10.1177/1750458918804789

Carrieras, H., & Castro, C. (2012). *Qualitative methods in military studies. research experiences and challenges.* Abingdon-on-Thames, U.K: Routledge.

Chandler, H., MacLeod, K., Penn-Barwell, J., Penn-Barwell, J., Bennett, P., Fries, C., Kendrew, J., Midwinter, M., Bishop, J., Rickard, R., Sargeant, I., Porter, K., Rowland, T., Mountain, A., Kay, A., Mortiboy, D., Stevenson, T., & Myatt, R. (2017). Extremity injuries sustained by the UK military in the Iraq and Afghanistan conflicts: 2003–2014. *Injury, 48*(7), 1439-1443. doi:10.1016/j.injury.2017.05.022.

Charlick, S., Pincombe, J., McKellar, L., & Gordon, A. (2016). Making sense of participant experiences: Interpretative phenomenological analysis in midwifery research. *International Journal of Doctoral Studies, 11*, 205-216. doi:10.28945/3486.

Charmaz, K. (2006). *Constructing grounding theory: A practical guide through qualitative analysis*. London, U.K: Sage Publications, Inc.

Charney, M. E., Bui, E., Sager, J. C., Ohye, B. Y., Goetter, E. M., & Simon, N. M. (2018). Complicated Grief Among Military Service Members and Veterans Who Served After September 11, 2001. *Journal of traumatic stress*, *31*(1), 157–162. https://doi.org/10.1002/jts.22254

Churchill, S., & Reynolds, J. (2014). *Jean-Paul Satre: Key concepts*. Abingdon-on-Thames, UK: Routledge.

Churchill, S., & Wertz, F. (2015). An introduction to phenomenological research in psychology: Historical, conceptual, and methodological foundations. In K. Schneider, J. Pierson, & J. Biugental (Eds.), *The handbook of humanistic psychology: Theory, research, and practice.* (pp. 275-295). London, U.K: Sage Publications, Inc.

Cifu, D., Taylor, B., Carne, W., Bidelspach, D., Sayer, N., Scholten, J., & Campbell, E. (2013). Traumatic brain injury, posttraumatic stress disorder, and pain diagnoses in OIF/OEF/OND Veterans. *J Rehabil Res Dev, 50*(9), 1169-1176. doi:10.1682/jrrd.2013.01.0006.

CIMVHR (2020)Canadian Military, Veteran and Family Health Research. Retrieved from https://cimvhr.ca/jmvfh/

Clark, M., Bair, M., Buckenmaier, C., Gironda, R., & Walker, R. (2007). Pain and combat injuries in soldiers returning from Operations Enduring Freedom and Iraqi Freedom: implications for research and practice. *J Rehabil Res Dev, 44*(2), 179-194. doi:10.1682/jrrd.2006.05.0057.

Clark, M., Scholten, J., Walker, R., & Gironda, R. (2009). Assessment and treatment of pain associated with combat-related polytrauma. *Pain medicine (Malden, Mass.), 10*(3), 456-469. doi:10.1111/j.1526-4637.2009.00589.x.

Cogan, A. M., Haines, C. E., Devore, M. D., Lepore, K. M., & Ryan, M. (2019). Occupational Challenges in Military Service Members With Chronic Mild Traumatic Brain Injury. *The American journal of occupational therapy : official publication of the American Occupational Therapy Association*, *73*(3), 7303205040p1–7303205040p9. https://doi.org/10.5014/ajot.2019.027599

Cohen, L., Manion, L., & Morrison, K. (2018). *Research methods in education* (8th ed.). Abingdon-on -Thames, UK: Routledge.

Cohen, M., Quintner, J., & van Rysewyk, S. (2018). Reconsidering the International Association for the Study of Pain definition of pain. *Pain Rep, 3*(2), e634. doi:10.1097/pr9.0000000000000634.

Cohen, N., & Arieli, T. (2011). Field research in conflict environments: Methodological challenges and snowball sampling. *Journal of Peace Research, 48*(4), 423-435. doi:10.1177/0022343311405698.

Cohen, S., Brown, C., Kurihara, C., Plunkett, A., Nguyen, C., & Strassels, S. (2010). Diagnoses and factors associated with medical evacuation and return to duty for service members participating in Operation Iraqi Freedom or Operation Enduring Freedom: a prospective cohort study. *Lancet, 375*(9711), 301-309. doi:10.1016/s0140-6736(09)61797-9.

Cohen, L. et al (2007) *Research Methods in Education*. New York: Routledge

Colley, R., & Crouch, R. (2000). Pain assessment tools. *Emergency Nurse, 8*(6), 16-21. doi:10.7748/en2000.10.8.6.16.c1334.

Collis, J., & Hussey, R. (2003). *Business research: A practical guide for undergraduate and postgraduate students*. London, UK: Palgrave Macmillan.

Cook, A., Meyer, E., Evans, L., Vowles, K., Klocek, J., Kimbrel, N., Gulliver, S., & Morissette, S. (2015). Chronic pain acceptance incrementally predicts disability in polytrauma-exposed veterans at baseline and 1-year follow-up. *Behaviour Research and Therapy, 73*, 25-32. doi:10.1016/j.brat.2015.07.003.

Cooper, L., Caddick, N., Godier, L., Cooper, A., Fossey, M., & Engward, H. (2017). A Model of Military to Civilian Transition: Bourdieu in Action. Journal of Military, Veteran and Family Health, 3(2), 53-60

Cooper, L., Andrew, S., & Fossey, M. (2016). Educating nurses to care for military veterans in civilian hospitals: An integrated literature review. *Nurse Educ Today, 47*, 68-73. doi:10.1016/j.nedt.2016.05.022.

Cooper, D. B., Bunner, A. E., Kennedy, J. E., Balldin, V., Tate, D. F., Eapen, B. C., & Jaramillo, C. A. (2015). Treatment of persistent post-concussive symptoms after mild traumatic brain injury: a systematic review of cognitive rehabilitation and behavioral health interventions in military service members and veterans. *Brain imaging and behavior*, *9*(3), 403–420. https://doi.org/10.1007/s11682-015-9440-2

Cope, D. (2014). Methods and meanings: credibility and trustworthiness of qualitative research. *Oncol Nurs Forum, 41*(1), 89-91. doi:10.1188/14.onf.89-91.

Corben, V. (1999). Misusing phenomenology in nursing research: identifying the issues. *Nurse Researcher, 6*, 52-66. doi:10.7748/nr1999.04.6.3.52.c6087.

Cosio, D. (2019). Chronic pain and the psychological stages of grief. *Practical Pain Management, 19*(3), 19-21.

Coulter, A., Entwistle, V. A., Eccles, A., Ryan, S., Shepperd, S., & Perera, R. (2015). Personalised care planning for adults with chronic or long-term health conditions. *The Cochrane database of systematic reviews*, *2015*(3), CD010523. https://doi.org/10.1002/14651858.CD010523.pub2

Creswell. (2009). *Research design: Qualitative and mixed methods approaches*. London, UK: Sage Publications, Inc.

Crombez, G., Eccleston, C., Van Damme, S., Vlaeyen, J. W., & Karoly, P. (2012). Fear-avoidance model of chronic pain: the next generation. *The Clinical journal of pain*, *28*(6), 475–483. https://doi.org/10.1097/AJP.0b013e3182385392

Cuellar, N. (2008). Mindfulness meditation for veterans---implications for occupational health providers. *AAOHN journal: official journal of the American Association of Occupational Health Nurses*, *56*(8), 357-363.

Cuhls, H., Radbruch, L., Brunsch-Radbruch, A., Schmidt-Wolf, G., & Rolke, R. (2013). Palliative Schmerztherapie. Aktuelle Aspekte der Arzneimitteltherapie [Pain management in palliative care. Current aspects of medicinal therapy]. *Der Internist*, *54*(2), 254–262. https://doi.org/10.1007/s00108-012-3230-3

DASA (2010). British casualties—Afghanistan. Retrieved from www.dasa.mod.uk

DASA (2010). Monthly Iraq and Afghanistan UK Patient Treatment Statistics—RCDM and DMRC Headley Court. Retrieved from www.dasa.mod.uk

Davis, M. C., Zautra, A. J., & Reich, J. W. (2001). Vulnerability to stress among women in chronic pain from fibromyalgia and osteoarthritis. *Annals of behavioral medicine : a publication of the Society of Behavioral Medicine*, *23*(3), 215–226. https://doi.org/10.1207/S15324796ABM2303_9

Deleuze, G. (1983). *Nietzsche and philosophy* (H. Tomlinson, Trans.). London, UK: Athlone Press.

Dembek, Z., Chekol, T., & Wu, A. (2020). The opioid epidemic: Challenge to military medicine and national security. *Mil Med, 185*(5-6), e662-e667. doi:10.1093/milmed/usz487.

Đerke, F., Filipovic-Grcic, L., Braš, M., & Djordjevic, V. (2016). Psychoneuroimmunology Alternations As A Comorbidity of Post-Traumatic Stress Disorder In Veterans – Case Report. *European Psychiatry*, *33*(S1), S525–S525. Cambridge University Press.

Dharm-Datta, S., Etherington, J., Mistlin, A., Rees, J., & Clasper, J. (2011). The outcome of British combat amputees in relation to military service. *Injury*, *42*(11), 1362–1367. https://doi.org/10.1016/j.injury.2011.06.028

Diehle, J., & Greenberg, N. (2015). *Counting the costs*. Help for Heroes. Retrieved from: https://www.helpforheroes.org.uk/

Doka,K (2002) *Disenfranchised Grief: New Directions, Challenges, and Strategies for Practice.* Research Press, Champaign, Ill, USA.

Dolezal, L. (2012). Reconsidering the look in Sartre's "Being and nothingness". *Sartre Studies International, 18*(1), 9-28. doi:10.3167/ssi.2012.180102.

Dorflinger, L., Moore, B., Goulet, J., Becker, W., Heapy, A., Sellinger, J., & Kerns, R. (2014). A partnered approach to opioid management, guideline concordant care and the stepped care model of pain management. *Journal of General Internal Medicine, 29*(4), 870-876. doi:10.1007/s11606-014-3019-2.

Dougherty, L., & Lister, S. (2011). *The Royal Marsden Hospital manual of clinical nursing procedures* (8th ed.). Hoboken, USA: Wiley-Blackwell.

Edmond, S., Moore, B., Dorflinger, L., Goulet, J., Becker, W., Heapy, A., Sellinger, J., Lee, A., Levin, F., Ruser, C., & Kerns, R. (2018). Project STEP: Implementing the veterans health administration's stepped care model of pain management. *Pain Medicine, 19*(suppl_1), S30-S37. doi:10.1093/pm/pny094.

Eger, E. (2017). *The Choice*. London, UK: Penguin.

Eger, E. (2020). *The Gift*. London, UK.: Penguin.

Eichorn, N. (2018). A Transitional view of medicine and medical practices during the civil war. Retrieved from https://www.journalofthecivilwarera.org/2018/11/a-transnational-view-of-medicine-and-medical-practices-during-the-civil-war/#

Elnitsky, C., Andresen, E., Clark, M., McGarity, S., Hall, C., & Kerns, R. (2013). Access to the US Department of Veterans Affairs health system: self-reported barriers to care among returnees of Operations Enduring Freedom and Iraqi Freedom. *BMC Health Services Research, 13*(1), 498. doi:10.1186/1472-6963-13-498.

Engel, G. (1977). The need for a new medical model: a challenge for biomedicine. *Science, 196*(4286), 129-136. doi:10.1126/science.847460.

Engward, H., Fleuty, K., & Fossey, M. (2018). Caring and coping: The family perspective on living with limb loss. . *Blesma Families Project*.

Engward, H., & Fleuty, K. (2019). Improving the awareness and care of veterans in healthcare services. *Nursing standard (Royal College of Nursing (Great Britain) : 1987), 35*(1), 25–30. https://doi.org/10.7748/ns.2019.e11190

Epstein, R. A., Heinemann, A. W., & McFarland, L. V. (2010). Quality of life for veterans and servicemembers with major traumatic limb loss from Vietnam and OIF/OEF conflicts. *Journal of rehabilitation research and development*, *47*(4), 373–385. https://doi.org/10.1682/jrrd.2009.03.0023

Etherington, K. (2006). Reflexivity: Using Our Selves in Narrative Research. In S. Trahar (Ed.), *Narrative Research on Learning: International and Comparative Perspectives* Symposium Books.

Farmer, B. (2014, 03 October). Help for Heroes: Up to 75,000 British scarred by Iraq and Afghanistan. *The Telegraph*. Retrieved from https://www.telegraph.co.uk/news/uknews/defence/

Farnsworth, J., Drescher, K., Evans, W., & Walser, R. (2017). A functional approach to understanding and treating military-related moral injury. *Journal of Contextual Behavioral Science, 6*(4), 391-397. doi:10.1016/j.jcbs.2017.07.003.

Fetterman, D. (2020) *Ethnography: Step-by-Step:* 4th Ed. London, Sage

Fillingim, R. (2017). Individual differences in pain: understanding the mosaic that makes pain personal. *Pain, 158 Suppl 1*(Suppl 1), S11-s18. doi:10.1097/j.pain.0000000000000775.

Finlay, L. (2005). "Reflexive embodied empathy": A phenomenology of participant-researcher intersubjectivity. *The Humanistic Psychologist, 33*(4), 271-292. doi:10.1207/s15473333thp3304_4.

Finlay, L. (2012). 'Writing the pain': Engaging first-person phenomenological accounts. *Indo-Pacific Journal of Phenomenology, 12*(sup2), 1-9. doi:10.2989/IPJP.2012.12.1.5.1113.

Finlay, L., & Ballinger, F. (2006). *Qualitative research for allied health professionals: challenging choices*. London, UK: John Wiley & Sons.

Finley, E. P., Bollinger, M., Noël, P. H., Amuan, M. E., Copeland, L. A., Pugh, J. A., Dassori, A., Palmer, R., Bryan, C., & Pugh, M. J. (2015). A national cohort study of the association between the polytrauma clinical triad and suicide-related behavior among US Veterans who served in Iraq and Afghanistan. *American journal of public health, 105*(2), 380–387. https://doi.org/10.2105/AJPH.2014.301957

Flick, U. (2017) The SAGE Handbook of Qualitative Data Collection. London, Sage.

Fossey, M., & Hacker-Hughes, J. (2014) Traumatic Limb Loss and the Needs of the Family. Retrieved from https://blesma.org/media/224988/Blesma-Literature-review-For-Web.pdf

Frankl, V. (2011). *Man's search for ultimate meaning: The classic tribute to hope from the holocaust.* . London, UK.: Penguin.

Frankl, V. E.(2004) Mans Search for Meaning. *The Classic Tribute to hope from the Holocaust.* Rider.

Franco, Z. E., Logan, C., Flower, M., Curry, B., Ruffalo, L., Brazauskas, R., & Whittle, J. (2016). Community Veterans' Decision to Use VA Services: A Multimethod Veteran Health Partnership Study. *Progress in community health partnerships : research, education, and action, 10*(1), 31–44. https://doi.org/10.1353/cpr.2016.0012

Gabrielian, S., Yuan, A., Andersen, R., Rubenstein, L., & Gelberg, L. (2014). VA health service utilization for homeless and low-income Veterans: a spotlight on the VA Supportive Housing (VASH) program in greater Los Angeles. *Med Care, 52*(5), 454-461. doi:10.1097/mlr.0000000000000112.

Gallagher, R. (1999). The pain medicine and primary care community rehabilitation model: monitored care for pain disorders in multiple settings. *Clin J Pain, 15*(1), 1-3. doi:10.1097/00002508-199903000-00001.

Gallagher, R. (2005). Rational integration of pharmacologic, behavioral, and rehabilitation strategies in the treatment of chronic pain. *Am J Phys Med Rehabil, 84*(3 Suppl), S64-76.

Gallagher, R. (2011) Rational integration of pharmacologic, behavioural and rehabilitation strategies in the treatment of chronic pain. *Am J Phys Med Rehabil*. 2005;84 (suppl 3):S64-S76.

Gallagher, R. (2016). Advancing the pain agenda in the veteran population. *Anesthesiol Clin, 34*(2), 357-378. doi:10.1016/j.anclin.2016.01.003.

Gallagher, R., & Polomano, R. (2006). Early, continuous, and restorative pain management in injured soldiers: the challenge ahead. *Pain medicine (Malden, Mass.), 7*(4), 284-286. doi:10.1111/j.1526-4637.2006.00188.x.

Gallagher, S. (2005). *How the body shapes the mind*. Oxford, USA: Oxford University Press.

Gallagher, S., & Zahavi, D. (2008). *The phenomenological mind: An introduction to philosophy of mind and cognitive science*. Abingdon on Thames, UK: Routledge.

Galloway, K., Buckenmaier, C., & Polomano, R. (2014). Special report – War on pain: Understanding pain and pain mechanisms. *American Nurse*.

Gan T. J. (2017). Poorly controlled postoperative pain: prevalence, consequences, and prevention. *Journal of pain research*, *10*, 2287–2298. https://doi.org/10.2147/JPR.S144066

Gatchel, R. (2004). Comorbidity of chronic pain and mental health disorders: the biopsychosocial perspective. *Am Psychol, 59*(8), 795-805. doi:10.1037/0003-066x.59.8.795.

Gatchel R.J., Haggard R., Thomas C., Howard K.J. (2018) Biopsychosocial Approaches to Understanding Chronic Pain and Disability. In: Moore R. (eds) Handbook of Pain and Palliative Care. Springer, Cham. https://doi.org/10.1007/978-3-319-95369-4_1

Gaudet, T., & Kligler, B. (2019). Whole health in the whole system of the veterans administration: How will we know we have reached this future state? *J Altern Complement Med, 25*(S1), S7-s11. doi:10.1089/acm.2018.29061.gau.

Gauntlett-Gilbert, J., & Wilson, S. (2013a). Veterans and chronic pain. *Br J Pain, 7*(2), 79-84. doi:10.1177/2049463713482082.

Gauntlett-Gilbert, J., & Wilson, S. (2013b). Veterans and chronic pain. *Br J Pain, 7*(2), 79-84. doi:10.1177/2049463713482082.

Gawande, A. (2004). Casualties of war--military care for the wounded from Iraq and Afghanistan. *N Engl J Med, 351*(24), 2471-2475. doi:10.1056/NEJMp048317.

Ghaljaie, F., Naderifar, M., & Goli, H. (2017). Snowball sampling: A purposeful method of sampling in qualitative research. *Strides in Development of Medical Education, 14*(3). doi:10.5812/sdme.67670.

Giannitrapani, K., McCaa, M., Haverfield, M., Kerns, R., Timko, C., Dobscha, S., & Lorenz, K. (2018). Veteran experiences seeking non-pharmacologic approaches for pain. *Mil Med, 183*(11-12), e628-e634. doi:10.1093/milmed/usy018.

Gilbert, A., & Roughead, L. (2006). Veterans' medicines advice and therapeutics education services (Veterans' MATES). *Geriaction*, 24(3), 20. https://search.informit.org/doi/10.3316/informit.449228971868099

Gill, P., & Dolan, G. (2015). Originality and the PhD: what is it and how can it be demonstrated?. *Nurse researcher*, *22*(6), 11–15. https://doi.org/10.7748/nr.22.6.11.e1335

Giorgi, A., & Girgi, B. (2008). Phenomenological psychology. In C. Willig & W. Stainto-Rogers (Eds.), *The Sage handbook of qualitative research in psychology*. London: Sage Publications, Inc.

Gironda, R., Clark, M., Massengale, J., & Walker, R. (2006). Pain among veterans of Operations Enduring Freedom and Iraqi Freedom. *Pain medicine (Malden, Mass.), 7*(4), 339-343. doi:10.1111/j.1526-4637.2006.00146.x.

Goodwin, L., Norton, S., Fear, N., Jones, M., Hull, L., Wessely, S., & Rona, R. (2017). Trajectories of alcohol use in the UK military and associations with mental health. *Addict Behav, 75*, 130-137. doi:10.1016/j.addbeh.2017.07.010.

Goldsmith, E. S., MacLehose, R. F., Jensen, A. C., Clothier, B., Noorbaloochi, S., Martinson, B. C., Donaldson, M. T., & Krebs, E. E. (2020). Complementary, Integrative, and Nondrug Therapy Use for Pain Among US Military Veterans on Long-term Opioids. *Medical care*, *58 Suppl 2 9S* (Suppl 2 9 Suppl), S116–S124. https://doi.org/10.1097/MLR.0000000000001333

Golightly, Y. M., Marshall, S. W., Callahan, L. F., & Guskiewicz, K. (2009). Early-onset arthritis in retired National Football League players. *Journal of physical activity & health*, *6*(5), 638–643. https://doi.org/10.1123/jpah.6.5.638

Gordon K, Burnell K and Wilson C (2020) Outside the Military "Bubble": Life After Service for UK Ex-armed Forces Personnel. *Front. Public Health* 8:50. doi: 10.3389/fpubh.2020.00050

Gorman, J. A., Scoglio, A., Smolinsky, J., Russo, A., & Drebing, C. E. (2018). Veteran Coffee Socials: A Community-Building Strategy for Enhancing Community Reintegration of Veterans. *Community mental health journal*, *54*(8), 1189–1197. https://doi.org/10.1007/s10597-018-0288-y

Goubert, L., & Trompetter, H. (2017). Towards a science and practice of resilience in the face of pain. *Eur J Pain, 21*(8), 1301-1315. doi:10.1002/ejp.1062.

Gray, M., Chung, J., Aguila, F., Williams, T., Teraoka, J., & Harris, O. (2018). Long-term functional outcomes in military service members and veterans after traumatic brain injury/polytrauma inpatient rehabilitation. *Arch Phys Med Rehabil, 99*(2s), S33-s39. doi:10.1016/j.apmr.2017.08.465.

Graczyk, M., Borkowska, A., & Krajnik, M. (2018). Why patients are afraid of opioid analgesics: a study on opioid perception in patients with chronic pain. *Polish archives of internal medicine*, *128*(2), 89–97. https://doi.org/10.20452/pamw.4167

Greer, S., & Joseph, M. (2016). Palliative care: A holistic discipline. *Integr Cancer Ther, 15*(1), 5-9. doi:10.1177/1534735415617015.

Green, S (2014) The Experience of Spirituality and Disability Sport for British Military Personnel Traumatically Injured in Iraq and Afghanistan: An Interpretative Phenomenological Analysis, *Journal of Disability & Religion*, 18:2, 142-156, DOI: 10.1080/23312521.2014.898394

Green, S. (2012). The role of spirituality through adaptive sport in the identity adaptation of wounded Service personnel. *International Journal of Therapy & Rehabilitation*, *19*(9), 516–520.

Grimell, J. (2018). *Reconsidering the uniform: Existential and religious identity reconstruction among Swedes in the aftermath of military service.* (Doctoral Dissertation, Vrije Universiteit Amsterdam, the Netherlands), Retrieved from https://research.vu.nl

Grix, J. (2004). *The foundations of research*. London, UK.: Palgrave Macmillan.

Grondin, H. (1994). *Introduction to philosophical hermeneutics*. London, UK: Yale University Press.

Grossman, D. (2014) *On Killing: The psychological cost of learning to kill in war and society*. Open Road: Integrated Media.

Gullacksen, A. C., & Lidbeck, J. (2004). The life adjustment process in chronic pain: psychosocial assessment and clinical implications. *Pain research & management*, *9*(3), 145–153. https://doi.org/10.1155/2004/373479

Gutland, C. (2018). Husserlian phenomenology as a kind of introspection. *Frontiers in psychology*, *9*, 896-896. doi:10.3389/fpsyg.2018.00896.

Hadlandsmyth, K., Mosher, H., Vander Weg, M., & Lund, B. (2018). Decline in prescription opioids attributable to decreases in long-term use: A retrospective study in the Veterans Health Administration 2010-2016. *Journal of General Internal Medicine, 33*(6), 818-824. doi:10.1007/s11606-017-4283-8.

Heidegger, M. (1927). Being and time (1978 edition). Blackwell

Herman, A., & Yarwood, R. (2015). From warfare to welfare: Veterans, military charities and the blurred spatiality of post-service welfare in the United Kingdom. Environmental and Planning A, 47(12), 2628-2644.

Hinrichs-Rocker, A., Schulz, K., Järvinen, I., Lefering, R., Simanski, C., & Neugebauer, E. A. (2009). Psychosocial predictors and correlates for chronic post-surgical pain (CPSP) - a systematic review. *European journal of pain (London, England)*, *13*(7), 719–730. https://doi.org/10.1016/j.ejpain.2008.07.015

Holbrook, T. L., Galarneau, M. R., Dye, J. L., Quinn, K., & Dougherty, A. L. (2010). Morphine use after combat injury in Iraq and post-traumatic stress disorder. *The New England journal of medicine*, *362*(2), 110–117. https://doi.org/10.1056/NEJMoa0903326

Halldorsdottir, S. A psychoneuroimmunological view of the healing potential of professional caring in the face of human suffering. *Int J Hum Caring, 11*(2), 32-39. doi:10.20467/1091-5710.11.2.32.

Halligan, P., & Aylward, M. (2006). *The power of belief psychosocial Influence on illness, disability and medicine*. Oxford, USA: Oxford University Press.

Hammersley, M. Atkinson. (2007) *Ethnography: Principles in Practice*. Routledge.

Hapidou, E., & Horst, E. (2016). Learning to manage chronic pain: The patients' perspective. *Pain and therapy, 5*(1), 93-105. doi:10.1007/s40122-016-0047-0.

Harmer, B., & Huffman, J. (2012). Answering the joining forces call: integrating woman veteran care into nursing simulations. *Nurse Educ, 37*(6), 237-241. doi:10.1097/NNE.0b013e31826f2c39.

Harper, D., Selleck, C., Eagerton, G., & Froelich, K. (2015). Partnership to improve quality care for veterans: the VA Nursing Academy. *J Prof Nurs, 31*(1), 57-63. doi:10.1016/j.profnurs.2014.06.004.

Harrington, A. (2008). *The cure within: A history of mind-Body medicine*. New York, USA: Norton & Company.

Harris, J., Usset, T., Krause, L., Schill, D., Reuer, B., Donahue, R., & Park, C. (2018). Spiritual/Religious Distress Is Associated with Pain Catastrophizing and Interference in Veterans with Chronic Pain. *Pain medicine (Malden, Mass.), 19*(4), 757-763. doi:10.1093/pm/pnx225.

Harrison, A. (1991). Assessing patients' pain: identifying reasons for error. *J Adv Nurs, 16*(9), 1018-1025. doi:10.1111/j.1365-2648.1991.tb03361.x.

Harvold, M., MacLeod, C., & Vaegter, H. (2018). Attentional avoidance is associated with increased pain sensitivity in patients with chronic posttraumatic pain and comorbid posttraumatic stress. *Clin J Pain, 34*(1), 22-29. doi:10.1097/ajp.0000000000000505.

Hasenbring, M. I., Hallner, D., & Rusu, A. C. (2009). Fear-avoidance- and endurance-related responses to pain: development and validation of the Avoidance-Endurance Questionnaire (AEQ). *European journal of pain (London, England)*, *13*(6), 620–628. https://doi.org/10.1016/j.ejpain.2008.11.001

Hatch, S. L., Harvey, S. B., Dandeker, C., Burdett, H., Greenberg, N., Fear, N. T., & Wessely, S. (2013). Life in and after the Armed Forces: social networks and mental health in the UK military. *Sociology of health & illness*, *35*(7), 1045–1064. https://doi.org/10.1111/1467-9566.12022

Heckathorn, D. (2002). Respondent-Driven Sampling II: Deriving Valid Population Estimates From Chain-Referral Samples of Hidden Populations. *Social problems*. 49. 11-34. 10.1525/sp.2002.49.1.11.

Hegel, G. (2019). *The phenomenology of spirit* (C. Hegel, Trans.). Cambridge, UK: Cambridge university Publishing.

Heidegger, M. (1962). *Being and time*. Oxford: Blackwell.

Helmer, D., Chandler, H., Quigley, K., Blatt, M., Teichman, R., & Lange, G. (2009). Chronic widespread pain, mental health, and physical role function in OEF/OIF veterans. *Pain medicine (Malden, Mass.), 10*(7), 1174-1182. doi:10.1111/j.1526-4637.2009.00723.x.

Help for Heroes. (2019). Improving the medical discharge process. Retrieved from https://www.helpforheroes.org.uk/media/yenp2mov/2019_0053-medical-discharge-policy-paper-v3.pdf

Help for Heroes fights for Injured Veterans to have access to the DMRC Stanford Hall. (2019). *Help for Heroes*. Retrieved from https://www.helpforheroes.org.uk/news/help-for-heroes-fights-for-injured-veterans-to-have-access-to-the-dmrc-stanford-hall/

Help for Heroes (2019) The Very Seriously Injured Veterans Programme. Help for Heroes 2019. Retrieved from https://www.helpforheroes.org.uk/get-support/physical-health-support/very-seriously-injured-veterans/

Hemington, K., Cheng, J., Bosma, R., Rogachov, A., Kim, J., & Davis, K. (2017). Beyond negative pain-related psychological factors: resilience Is related to lower pain affect in healthy adults. *J Pain, 18*(9), 1117-1128. doi:10.1016/j.jpain.2017.04.009.

Heotis E (2020) Phenomenological Research Methods: Extensions of Husserl and Heidegger. Int J Sch Cogn Psychol. 7:221. doi: 10.35248/2469-9837.19.6.221

Hidegger, M. (1962). *Being and time*. Oxford, USA.: Blackwell.

Higgins, D., Kerns, R., Brandt, C., Haskell, S., Bathulapalli, H., Gilliam, W., & Goulet, J. (2014). Persistent pain and comorbidity among Operation Enduring Freedom/Operation Iraqi Freedom/operation New Dawn veterans. *Pain medicine (Malden, Mass.), 15*(5), 782-790. doi:10.1111/pme.12388.

Hitch, C., Harper, B., Armour, C., & Waterhouse-Bradley, B. (2020). How army veterans cope with chronic pain: A Grounded theory approach. *Journal of Veterans Studies, 6*(1). doi:10.21061/jvs.v6i1.125.

Hoddy, E. (2019). Critical realism in empirical research: employing techniques from grounded theory methodology. *International Journal of Social Research Methodology, 22*(1), 111-124. doi:10.1080/13645579.2018.1503400.

Holbrook, T., Galarneau, M., Dye, J., Quinn, K., & Dougherty, A. (2010). Morphine use after combat injury in Iraq and post-traumatic stress disorder. *N Engl J Med, 362,* 110-117. doi:10.1056/NEJMoa0903326.

Hoot, M. R., Levin, H. S., Smith, A. N., Goldberg, G., Wilde, E. A., Walker, W. C., Eapen, B. C., Nolen, T., & Pugh, N. L. (2018). Pain and chronic mild traumatic brain injury in the US military population: a Chronic Effects of Neurotrauma Consortium study. *Brain injury*, *32*(10), 1169–1177. https://doi.org/10.1080/02699052.2018.1482427

Hooff, M., McFarlane, A., Davies, C., Searle, A., Fairweather-Schmidt, A., Verhagen, A., Benassi, H., & Hodson, S. (2014). The Australian Defence Force mental health prevalence and wellbeing study: Design and methods. *European journal of psychotraumatology, 5,* 10.3402/ejpt.v3405.23950. doi:10.3402/ejpt.v5.23950.

Hudak, R. P., Morrison, C., Carstensen, M., Rice, J. S., & Jurgersen, B. R. (2009). The U.S. Army Wounded Warrior Program (AW2): a case study in designing a nonmedical case management program for severely wounded, injured, and ill service members and their families. *Military medicine*, *174*(6), 566–571. https://doi.org/10.7205/milmed-d-04-0408

Husserl, E. (1970). *The crisis of european science and transcendental phenomenology. An introduction to phenomenological philosophy*. Evanston, USA: Northwestern University Press.

Husserl, E. (1983). *Ideas pertaining to a pure phenomenology and to a phenomenological philosophy,* (F. Kersten, Trans.). The Hague, NL: Martinus Nijhoff.

Husserl, E. (1991). *On the phenomenology of the consciousness of internal time (1893-1917),* (J. Brough, Trans.). Dordrecht, DL: Klewer Academic Publishers.

Ikin, J. F., Sim, M. R., McKenzie, D. P., Horsley, K. W. A., Wilson, E. J., Moore, M. R., Jelfs, P., et al. (2007). Anxiety, post-traumatic stress disorder and depression in Korean War veterans 50 years after the war. *British Journal of Psychiatry*, *190*(6), 475–483. Cambridge University Press.

International Association for the Study of Pain. (2021). Classification of chronic pain, Second edition (revised). Retrieved from https://www.iasp-pain.org

International Association for the Study of Pain (2011) *Battlefield to Bedside Recovery*. IASP, Vol. XIX, Issue 5.

Isaacson, B. M., Weeks, S. R., Pasquina, P. F., Webster, J. B., Beck, J. P., & Bloebaum, R. D. (2010). The road to recovery and rehabilitation for injured service members with limb loss: a focus on Iraq and Afghanistan. *U.S. Army Medical Department journal*, 31–36.

Jones, M., & Breen, H. (2015). Joining Forces: Enriching RN-to-BSN Education With Veteran-Centered Experiences. *Journal of professional nursing : official journal of the American Association of Colleges of Nursing*, *31*(5), 402–406. https://doi.org/10.1016/j.profnurs.2015.03.004

Jones, A. (2013). *They Were Soldiers: How the Wounded Return from America's Wars - The Untold story.* Chicago: Haymarket Books

Jensen, M., Turner, L., Turner, J., & Romano, J. (1996). The use of multiple-item scales for pain intensity measurement in chronic pain patients. *Pain, 67*(1), 35-40. doi:10.1016/0304-3959(96)03078-3.

Johnson, T.P (2014) Snowball Sampling: Introduction *Wiley StatsRef: Statistics Reference Online* doi.org/10.1002/9781118445112.stat05720

Jomy, J., & Hapidou, E. (2020). Pain management program outcomes in veterans with chronic pain and comparison with nonveterans. *Canadian Journal of Pain, 4*(1), 149-161. doi:10.1080/24740527.2020.1768836.

Kanefsky, R., Motamedi, V., Mithani, S., Mysliwiec, V., Gill, J. M., & Pattinson, C. L. (2019). Mild traumatic brain injuries with loss of consciousness are associated with increased inflammation and pain in military personnel. *Psychiatry research*, *279*, 34–39. https://doi.org/10.1016/j.psychres.2019.07.001

Kalra R, Clark ME, Scholten ME, Murphy JL, Clement KL. (2008) Managing pain among returning service members. Fed Pract;25(10):36–45.

Karunamuni, N., Imayama, I., & Goonetilleke, D. (2021). Pathways to well-being: Untangling the causal relationships among biopsychosocial variables. *Social Science & Medicine*, *272*, 112846. doi:10.1016/j.socscimed.2020.112846.

Katzman, J., Qualls, C., Satterfield, W., Kistin, M., Hofmann, K., Greenberg, N., Swift, R., Comerci, G., Fowler, R., & Arora, S. (2019). Army and Navy ECHO pain telementoring improves clinician opioid prescribing for military patients: An observational cohort study. *Journal of General Internal Medicine, 34*(3), 387-395. doi:10.1007/s11606-018-4710-5.

Kelley, M., Bravo, A., Votaw, V., Stein, E., Redman, J., & Witkiewitz, K. (2019). Opioid and sedative misuse among veterans wounded in combat. *Addict Behav, 92*, 168-172. doi:10.1016/j.addbeh.2018.12.007.

Kelsall, H., Macdonell, R., Sim, M., Forbes, A., McKenzie, D., Glass, D., Ikin, J., & Ittak, P. (2005). Neurological status of Australian veterans of the 1991 Gulf War and the effect of medical and chemical exposures. *International Journal of Epidemiology, 34*(4), 810-819. doi:10.1093/ije/dyi084.

Kelsall, H. L., Sim, M. R., Forbes, A. B., Glass, D. C., McKenzie, D. P., Ikin, J. F., Abramson, M. J., Blizzard, L., & Ittak, P. (2004). Symptoms and medical conditions in Australian veterans of the 1991 Gulf War: relation to immunisations and other Gulf War exposures. Occupational and environmental medicine, 61(12), 1006–1013. https://doi.org/10.1136/oem.2003.009258

Kessler, D. (2019) *Finding Meaning: The Sixth Stage of Grief*. Penguin

Ketz, A. (2008). The experience of phantom limb pain in patients with combat-related traumatic amputations. *Arch Phys Med Rehabil, 89*(6), 1127-1132. doi:10.1016/j.apmr.2007.11.037.

Kezar, A. (2000) The Importance of Pilot Studies: Beginning the Hermeneutic Circle. *Research in Higher Education* 41, 385–400 https://doi.org/10.1023/A:1007047028758

Kirsch B, Berdine H, Zablotsky D, et al. Implementation of pain management strategy: identifying pain as the fifth vital sign. *VHSJ*. 2000;5(47):49-50, 53, 59

Knox, S., & Burkard, A. (2009). Qualitative research interviews. *Psychotherapy Research, 19*(4-5), 566-575. doi:10.1080/10503300802702105.

Koblinsky, S., Schroeder, A., & Leslie, L. (2017). "Give us respect, support and understanding": Women veterans of Iraq and Afghanistan recommend strategies for improving their mental health care. *Social Work in Mental Health, 15*(2), 121-142. doi:10.1080/15332985.2016.1186134.

Koch, T. (2006). Establishing rigour in qualitative research: the decision trail. *J Adv Nurs, 53*(1), 91-100. doi:10.1111/j.1365-2648.2006.03681.x.

Kotecha, S. (2014, 24 October). Care for UK military veterans is 'flawed', medical experts say. *BBC News.* Retrieved from https://www.bbc.co.uk/news/

Krebs, E., Clothier, B., Nugent, S., Jensen, A., & Martinson, B. (2020). The evaluating prescription opioid changes in veterans (EPOCH) study: Design, survey response, and baseline characteristics. *15*(4), e0230751. doi:10.1371/journal.pone.0230751.

Krejci, L. P., Carter, K., & Gaudet, T. (2014). Whole health: the vision and implementation of personalized, proactive, patient-driven health care for veterans. *Medical care, 52*(12 Suppl 5), S5–S8. https://doi.org/10.1097/MLR.0000000000000226

Kubler-Ross, E. (1969). *Ondeat and dying*. Abindon, UK: Routledge.

Kubler-Ross, E., & Kessler, D. (2014). *On grief and grieving*. New York, USA: Simon & Schuster.

Lachapelle, D. L., Lavoie, S., & Boudreau, A. (2008). The meaning and process of pain acceptance. Perceptions of women living with arthritis and fibromyalgia. *Pain research & management, 13*(3), 201–210. https://doi.org/10.1155/2008/258542

Larkin, M., Watts, S., & Clifton, E. (2006). Giving voice and making sense in Interpretative Phenomenological Analysis. *Qualitative Research in Psychology*, 3, 102-120.

Laverty, S. (2003). Hermeneutic phenomenology and phenomenology: A comparison of historical and methodological considerations. *International Journal of Qualitative Methods, 2*(3), 21-35. doi:10.1177/160940690300200303.

Lazarus R. S., Folkman S. (1984). *Stress, Appraisal and Coping*. New York: Springer

Lehman, B., David, D., & Gruber, J. (2017). Rethinking the biopsychosocial model of health: Understanding health as a dynamic system. *Social and Personality Psychology Compass, 11*(8), e12328. doi:10.1111/spc3.12328.

Leonard, C., Ayele, R., Ladebue, A., McCreight, M., Nolan, C., Sandbrink, F., & Frank, J. (2020). Barriers to and facilitators of multimodal chronic pain care for veterans: A national qualitative study. *Pain medicine (Malden, Mass.)*. doi:10.1093/pm/pnaa312.

Lew, H., Otis, J., Tun, C., Kerns, R., Clark, M., & Cifu, D. (2009). Prevalence of chronic pain, posttraumatic stress disorder, and persistent postconcussive symptoms in OIF/OEF veterans: polytrauma clinical triad. *J Rehabil Res Dev, 46*(6), 697-702. doi:10.1682/jrrd.2009.01.0006.

Lewis, S. (2018) Introduction of a bespoke, nurse-led pain management service (DMRC Headley Court). Retrieved from https://www.stapg.org.uk/wp/wp-content/uploads/2018/01/SARAH-LEWIS-Presentation.pdf

Lewis, M. (2006) *Grief, Trauma and Combat*. The Forum.

Lewis-Beck, M., Bryman, A., & Futing Liao, T. (2004). The SAGE Encyclopedia of social science research methods. *1*(1). doi:10.4135/9781412950589.

Lewinsohn, P. M., Seeley, J. R., Roberts, R. E., & Allen, N. B. (1997). Center for Epidemiologic Studies Depression Scale (CES-D) as a screening instrument for depression among community-residing older adults. *Psychology and aging*, *12*(2), 277–287. https://doi.org/10.1037//0882-7974.12.2.277

Lin, L. A., Peltzman, T., McCarthy, J. F., Oliva, E. M., Trafton, J. A., & Bohnert, A. (2019). Changing Trends in Opioid Overdose Deaths and Prescription Opioid Receipt Among Veterans. *American journal of preventive medicine*, *57*(1), 106–110. https://doi.org/10.1016/j.amepre.2019.01.016

Linn, B., Butler, S., Bruce, S., McClain-Meeder, K., & Meeker, M. (2015). On working with veterans: what social work and nursing students need to know. *J. Mil. Veterans' Health*, *23*(3), 5-11.

Lipp, A (2007) Developing the reflexive dimension of reflection: A framework for debate, International *Journal of Multiple Research Approaches,* 1:1, 18-26, DOI: 10.5172/mra.455.1.1.18

Looker, J., & Aldington, D. (2009). Pain scores: As easy as counting to three. *J R Army Med Corps, 155*(1), 42-43. doi:10.1136/jramc-155-01-14.

Lorenz, K., Sherbourne, C., Shugarman, L., Rubenstein, L., Wen, L., Cohen, A., Goebel, J., Hagenmeier, E., Simon, B., Lanto, A., & Asch, S. (2009). How reliable is pain as the fifth vital sign? *J Am Board Fam Med, 22*(3), 291-298. doi:10.3122/jabfm.2009.03.080162.

Lubens, P., & Silver, R. C. (2019). U.S. combat veterans' responses to suicide and combat deaths: A mixed-methods study. *Social science & medicine (1982)*, *236*, 112341. https://doi.org/10.1016/j.socscimed.2019.05.046

Lutgendorf, S., & Costanzo, E. (2003). Psychoneuroimmunology and health psychology: an integrative model. *Brain Behav Immun, 17*(4), 225-232. doi:10.1016/s0889-1591(03)00033-3.

MacCaffrey, R. (2000). *Nursing management of the patient with pain* (3rd ed.). Philadelphia, USA: Lippincott.

Macrae, W. A. (2008). Chronic post-surgical pain: 10 years on. *British journal of anaesthesia*, *101*(1), 77–86. https://doi.org/10.1093/bja/aen099

MacGregor, A., Zouris, J., Watrous, J., McCabe, C., Dougherty, A., Galarneau, M., & Fraser, J. (2020). Multimorbidity and quality of life after blast-related injury among US military personnel: a cluster analysis of retrospective data. *BMC Public Health, 20*(1), 578. doi:10.1186/s12889-020-08696-4.

Macintyre, P., Schug, S., Scott, D., Visser, E., & Walker, S. (2010). Acute pain management: Scientific evidence. *Australian and New Zealand College of Anaesthetists and the Faculty of Pain Medicine.*

Mahoney, E., Silva, m., Dams-O'Connor, K., Chung, J., Giacino, J., Hammond, F., Kumar, A., Reljic, T., Nakase-Richardson, R., Monden, K., & Dillahunt-Aspillaga, C. (2019). Unmet rehabilitation needs five years post traumatic brain injury: A VA TBI model systems study. *Arch Phys Med Rehabil, 100*(10), e138. doi:10.1016/j.apmr.2019.08.423.

Maiocco, G., Vance, B., & Dichiacchio, T. (2020). Readiness of Non-Veteran Health Administration Advanced Practice Registered Nurses to Care for Those Who Have Served: A Multimethod Descriptive Study. *Policy Polit Nurs Pract, 21*(2), 82-94. doi:10.1177/1527154420923749.

Malik, T. (2020). *Practical chronic pain management*. New York, USA: Springer.

Mann, E., & Carr, E. (2009). *Pain: creative approaches to effective management*. London, UK: Palgrave Macmillan.

Mannes, Z. L., Ferguson, E. G., Perlstein, W. M., Waxenberg, L. B., Cottler, L. B., & Ennis, N. (2020). Negative health consequences of pain catastrophizing among retired National Football League athletes. *Health psychology : official journal of the Division of Health Psychology, American Psychological Association, 39*(5), 452–462. https://doi.org/10.1037/hea0000847

Marchand, W., Beckstrom, J., Nazarenko, E., Sweeny, R., Herrmann, T., Yocus, M., Romesser, J., Roper, J., Yabko, B., & Parker, A. (2020). The Veterans Health Administration whole health model of care: Early implementation and utilization at a large healthcare system. *Mil Med, 185*(11-12), e2150-e2157. doi:10.1093/milmed/usaa198.

Mardian, A. S., Hanson, E. R., Villarroel, L., Karnik, A. D., Sollenberger, J. G., Okvat, H. A., Dhanjal-Reddy, A., & Rehman, S. (2020). Flipping the Pain Care Model: A Sociopsychobiological Approach to High-Value Chronic Pain Care. *Pain medicine (Malden, Mass.), 21*(6), 1168–1180. https://doi.org/10.1093/pm/pnz336

Martinot, S. (2005). The Sartrean account of the look as a theory of dialogue. *Sartre Studies International, 11*(1/2), 43-61.

Masini, B., Waterman, S., Wenke, J., Owens, B., Hsu, J., & Ficke, J. (2009). Resource utilization and disability outcome assessment of combat casualties from Operation Iraqi Freedom and Operation Enduring Freedom. *J Orthop Trauma, 23*(4), 261-266. doi:10.1097/BOT.0b013e31819dfa04.

Matthias, M., Miech, E., Myers, L., Sargent, C., & Bair, M. (2012). "There's more to this pain than just pain": how patients' understanding of pain evolved during a randomized controlled trial for chronic pain. *J Pain, 13*(6), 571-578. doi:10.1016/j.jpain.2012.03.007.

Matthias, M., Miech, E., Myers, L., Sargent, C., & Bair, M. (2014). A qualitative study of chronic pain in Operation Enduring Freedom/Operation Iraqi Freedom veterans: "A burden on my soul". *Mil Med, 179*(1), 26-30. doi:10.7205/milmed-d-13-00196.

Mattocks, K., Rosen, M., Sellinger, J., Ngo, T., Brummett, B., Higgins, D., Reznik, T., Holtzheimer, P., Semiatin, A., Stapley, T., & Martino, S. (2020). Pain Care in the department of veterans affairs: Understanding how a cultural shift in pain care impacts provider decisions and collaboration. *Pain medicine (Malden, Mass.), 21*(5), 970-977. doi:10.1093/pm/pnz341.

Matua, G., & Van Der Wal, D. (2015). Differentiating between descriptive and interpretive phenomenological research approaches. *Nurse Res, 22*(6), 22-27. doi:10.7748/nr.22.6.22.e1344.

McCaffery, M. (1968). *Nursing practice theories related to cognition, bodily pain, and man-environment interactions*. Los Angeles: UCLA Students' Store.

McCaffery, M., & Beebe, A. (1989). Pain. clinical manual for nursing practice. In. St Louis, USA: C.V. Moseby.

McCaffery, M., Ferrell, B., & Pasero, C. (2000). Nurses' personal opinions about patients' pain and their effect on recorded assessments and titration of opioid doses. *Pain Manag Nurs, 1*(3), 79-87. doi:10.1053/jpmn.2000.9295.

McCain, N., Gray, D., Walter, J., & Robins, J. (2005). Implementing a comprehensive approach to the study of health dynamics using the psychoneuroimmunology paradigm. *ANS Adv Nurs Sci, 28*(4), 320-332. doi:10.1097/00012272-200510000-00004.

McCracken, L. (1998). Learning to live with the pain: acceptance of pain predicts adjustment in persons with chronic pain. *Pain, 74*(1), 21-27. doi:10.1016/s0304-3959(97)00146-2.

McCracken, L., Carson, J., Eccleston, C., & Keefe, F. (2004). Acceptance and change in the context of chronic pain. *Pain, 109*(1-2), 4-7. doi:10.1016/j.pain.2004.02.006.

McCracken, L., & Eccleston, C. (2005). A prospective study of acceptance of pain and patient functioning with chronic pain. *Pain, 118*(1-2), 164-169. doi:10.1016/j.pain.2005.08.015.

McFarlane A, Hodson S, Van Hooff M, Davies C. (2010) *Mental health in the Australian Defence Force: 2010 ADF Mental Health and Wellbeing Study: Full report.* Canberra, Australia: Department of Defence; 2011

Mcleod, J. (2003). *Doing counselling research*. New York, USA: Sage Publications Inc.

Merlau-Ponty, M. (2012). *Phenomenology of perception* (D. Landes, Trans.). Abingdon-on-Thames: Routledge.

Merwe, V.D., Brook, S., Fear,C., Benjamin, M.J., Libby, G., Williams, A,C,C., Baranowski, A, P. (2019) Military veterans with and without post-traumatic stress disorder: results from a chronic pain management programme. *Scandinavian Journal of Pain*. DOI: 10.1515/sjpain-2019-0182

Messinger S. D. (2010). Getting past the accident: explosive devices, limb loss, and refashioning a life in a military medical center. *Medical anthropology quarterly*, *24*(3), 281–303. https://doi.org/10.1111/j.1548-1387.2010.01105.x

Middleton, C. (2003). Understanding the physiological effects of unrelieved pain. *Nurs Times, 99*(37), 28-31.

Minegishi, T., Frakt, A. (2018) Reducing Long-term Opioid Use in the Veterans Health Administration. *J GEN INTERN MED* **33,** 781–782. https://doi.org/10.1007/s11606-018-4352-7

Ministry of Defence (2019) *ICP4V framework will provide personalised care for armed forces personnel.* Retrieved from https://www.england.nhs.uk/wp-content/uploads/2019/03/armed-forces-in-transition-ipcv-framework.pdf

Miller W, Crabtree B. (1999) Depth interviewing. In: Crabtree B, Miller W, eds. *Doing Qualitative Research.* 89–107. 2nd edn. Thousand Oaks, California: Sage

Morgan, L., & Aldington, D. (2020). Comorbid chronic pain and post-traumatic stress disorder in UK veterans: a lot of theory but not enough evidence. *Br J Pain, 14*(4), 256-262. doi:10.1177/2049463719878753.

Morrison-Beedy, D., Passmore, D., & D'Aoust, R. (2015). Military and veteran's health integration across missions: how a college of nursing "joined forces". *Nurs Outlook, 63*(4), 512-520. doi:10.1016/j.outlook.2015.05.004.

Morrison, J., Hunt, N., Midwinter, M., & Jansen, J. (2012). Associated injuries in casualties with traumatic lower extremity amputations caused by improvised explosive devices. *Br J Surg, 99*(3), 362-366. doi:10.1002/bjs.7765.

Moseley, G., & Butler, D. (2015). Fifteen years of explaining pain: The past, present, and future. *J Pain, 16*(9), 807-813. doi:10.1016/j.jpain.2015.05.005.

Mularski, R., White-Chu, F., Overbay, D., Miller, L., Asch, S., & Ganzini, L. (2006). Measuring pain as the 5th vital sign does not improve quality of pain management. *Journal of General Internal Medicine, 21*(6), 607-612. doi:10.1111/j.1525-1497.2006.00415.x.

Naik, A., Dindo, L., Van Liew, J., Hundt, N., Vo, L., Hernandez-Bigos, K., Esterson, J., Geda, M., Rosen, J., Blaum, C., & Tinetti, M. (2018). Development of a clinically feasible process for identifying individual health priorities. *J Am Geriatr Soc, 66*(10), 1872-1879. doi:10.1111/jgs.15437.

National Coalition for Homeless Veterans. (2021). Frequently Asked Questions. Retrieved from https://nchv.org/index.php/news/media/background_and_statistics/#faq

National Defence (2010) Authorization Act-Section 711.Washington, DC: Government Printing Office. Retrieved from https://www.congress.gov/111/plaws/publ84/PLAW-111publ84.pdf

Newman, S., Steed, L., & Mulligan, K. (2004). Self-management interventions for chronic illness. *Lancet, 364*(9444), 1523-1537. doi:10.1016/s0140-6736(04)17277-2.

Newsome, M., Wilde, E., Bigler, E., Liu, Q., Mayer, A., Taylor, B., Steinberg, J., Tate, D., Abildskov, T., Scheibel, R., Walker, W., & Levin, H. (2018). Functional brain connectivity and cortical thickness in relation to chronic pain in post-911 veterans and service members with mTBI. *Brain Inj, 32*(10), 1236-1244. doi:10.1080/02699052.2018.1494853.

Newton-John, T., Mason, C., & Hunter, M. (2014). The role of resilience in adjustment and coping with chronic pain. *Rehabil Psychol, 59*(3), 360-365. doi:10.1037/a0037023.

NHS England (2019)Universal Personalised Care: Implementing the Comprehensive Model. Retrieved from https://www.england.nhs.uk/wp-content/uploads/2019/01/universal-personalised-care.pdf

Nightingale, F. (1871). *Una and the lion* Retrieved from https://www.amazon.com

Noble, S. (2011). Merleau-Ponty fifty years after his death. *Chiasmi International, 13*, 63-112. doi:10.5840/chiasmi2011135.

Nochi, M. (1998). "Loss of self" in the narratives of people with traumatic brain injuries: A qualitative analysis. *Social Science & Medicine, 46*(7), 869–878. https://doi.org/10.1016/S0277-9536(97)00211-6

Norton, P. J., & Asmundson, G. J. (2004). Anxiety sensitivity, fear, and avoidance behavior in headache pain. *Pain, 111*(1-2), 218–223. https://doi.org/10.1016/j.pain.2004.06.018

Nursing & Midwifery Council. (2018). The code: Professional standards of practice and behaviour for nurses, midwives, and nursing associates. *Nursing & Midwifery Council,*.

O'Donnel M, Dell L, Fletcher S, Couineau A & Forbes D (2014). The Australian Defence Force mental health screening continuum framework. Canberra: *Department of Defence*

O'Toole, B., Catts, S., Outram, S., Pierse, K., & Cockburn, J. (2009). The physical and mental health of Australian Vietnam veterans 3 decades after the war and its relation to military service, combat, and post-traumatic stress disorder. *Am J Epidemiol, 170*(3), 318-330. doi:10.1093/aje/kwp146.

O'Toole, B. I., Outram, S., Catts, S. V., & Pierse, K. R. (2010). The mental health of partners of Australian Vietnam veterans three decades after the war and its relation to veteran military service, combat, and PTSD. *The Journal of nervous and mental disease, 198*(11), 841–845. https://doi.org/10.1097/NMD.0b013e3181f98037

Oliva, E., Bowe, T., Manhapra, A., Kertesz, S., Hah, J., Henderson, P., Robinson, A., Paik, M., Sandbrink, F., Gordon, A., & Trafton, J. (2020). Associations between stopping prescriptions for opioids, length of opioid treatment, and overdose or suicide deaths in US veterans: observational evaluation. *BMJ, 368*, m283. doi:10.1136/bmj.m283.

Ord, A. S., Lad, S. S., Shura, R. D., Rowland, J. A., Taber, K. H., & Martindale, S. L. (2021). Pain interference and quality of life in combat veterans: Examining the roles of posttraumatic stress disorder, traumatic brain injury, and sleep quality. *Rehabilitation Psychology, 66*(1), 31–38. https://doi.org/10.1037/rep0000333

Ostelo, R., Deyo, R., Stratford, P., Waddell, G., Croft, P., Von Korff, M., Bouter, L., & de Vet, H. (2008). Interpreting change scores for pain and functional status in low back pain: towards international consensus regarding minimal important change. *Spine (Phila Pa 1976), 33*(1), 90-94. doi:10.1097/BRS.0b013e31815e3a10.

Oster, C., Morello, A., Venning, A., Redpath, P., & Lawn, S. (2017). The health and wellbeing needs of veterans: a rapid review. *BMC Psychiatry, 17*(1), 414. doi:10.1186/s12888-017-1547-0.

Otis, J., Keane, T., & Kerns, R. (2003). An examination of the relationship between chronic pain and post-traumatic stress disorder. *J Rehabil Res Dev, 40*(5), 397-405. doi:10.1682/jrrd.2003.09.0397.

Outcalt, S., Ang, D., Wu, J., Sargent, C., Yu, Z., & Bair, M. (2014). Pain experience of Iraq and Afghanistan Veterans with comorbid chronic pain and posttraumatic stress. *J Rehabil Res Dev, 51*(4), 559-570. doi:10.1682/jrrd.2013.06.0134.

Outcalt, S., Kroenke, K., Krebs, E., Chumbler, N., Wu, J., Yu, Z., & Bair, M. (2015). Chronic pain and comorbid mental health conditions: independent associations of posttraumatic stress disorder and depression with pain, disability, and quality of life. *J Behav Med, 38*(3), 535-543. doi:10.1007/s10865-015-9628-3.

Palmer, L.,Rona,R.,Fear.,N., & Stevelink, S. (2021) Research in Focus: The TRIAD study-How PTSD develops in UK Armed Forces Personnel. Retrieved from https://kcmhr.org/research-in-focus-the-triad-study-how-ptsd-develops-in-uk-armed-forces-personnel/

Park, T., Saitz, R., Ganoczy, D., Ilgen, M., & Bohnert, A. (2015). Benzodiazepine prescribing patterns and deaths from drug overdose among US veterans receiving opioid analgesics: case-cohort study. *BMJ : British Medical Journal*, *350*, h2698. doi:10.1136/bmj.h2698.

Parkes, C. (2009) *Love and Loss: the Roots of Grief and its Complications*. Routledge

Parliament of the European Union. (2016). *Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation*. Brussels Retrieved from http://data.europa.eu/eli/reg/2016/679/2016-05-04.

Penn-Barwell, J. G., Roberts, S. A., Midwinter, M. J., & Bishop, J. R. (2015). Improved survival in UK combat casualties from Iraq and Afghanistan: 2003-2012. *The journal of trauma and acute care surgery*, *78*(5), 1014–1020. https://doi.org/10.1097/TA.0000000000000580

Petrini, L., & Arendt-Nielsen, L. (2020). Understanding Pain Catastrophizing: Putting Pieces Together. *Frontiers in psychology*, *11*, 603420. https://doi.org/10.3389/fpsyg.2020.603420

Picavet, H., Vlaeyen, J., & Schouten, J. (2002). Pain catastrophizing and kinesiophobia: predictors of chronic low back pain. *Am J Epidemiol*, *156*(11), 1028-1034. doi:10.1093/aje/kwf136.

Pietkiewicz, I. & Smith, J.A. (2012) Praktyczny przewodnik interpretacyjnej analizy fenomenologicznej w badaniach jakościowych w psychologii. Czasopismo Psychologiczne, 18(2), 361-369. (English translation version used). A practical guide to using Interpretative Phenomenological Analysis in qualitative research psychology Psychological Journal 18(2), 361-369.

Polomano, R. (2011). Special Report – War on pain. *American Nurse*.

Pringle, J., Drummond, J., McLafferty, E., & Hendry, C. (2011). Interpretative phenomenological analysis: a discussion and critique. *Nurse Res*, *18*(3), 20-24. doi:10.7748/nr2011.04.18.3.20.c8459.

Puchalski, C., Vitillo, R., Hull, S., & Reller, N. (2014). Improving the spiritual dimension of whole person care: reaching national and international consensus. *J Palliat Med*, *17*(6), 642-656. doi:10.1089/jpm.2014.9427.

Pugh, M., Swan, A., Carlson, K., Jaramillo, C., Eapen, B., Dillahunt-Aspillaga, C., Amuan, M., Delgado, R., McConnell, K., Finley, E., & Grafman, J. (2018). Traumatic brain injury severity, comorbidity, social support, family functioning, and community reintegration among veterans of the Afghanistan and Iraq wars. *Arch Phys Med Rehabil, 99*(2s), S40-s49. doi:10.1016/j.apmr.2017.05.021.

Ravn, S. L., Vang, M. L., Vaegter, H. B., & Andersen, T. E. (2018). Pain-Related Acceptance as a Mediator in the Fear Avoidance Model of Chronic Pain: A Preliminary Study. *Pain medicine (Malden, Mass.), 19*(9), 1764–1771. https://doi.org/10.1093/pm/pnx223

Raja, S., Carr, D., Cohen, M., Finnerup, N., Flor, H., Gibson, S., Keefe, F., Mogil, J. S., Ringkamp, M., Sluka, K., Song, X., Stevens, B., Sullivan, M., Tutelman, P., Ushida, T., & Vader, K. (2020). The revised International Association for the Study of Pain definition of pain: concepts, challenges, and compromises. *Pain, 161*(9), 1976-1982. doi:10.1097/j.pain.0000000000001939.

Rapkin, B. D., & Schwartz, C. E. (2004). Toward a theoretical model of quality-of-life appraisal: Implications of findings from studies of response shift. *Health and quality of life outcomes*, *2*, 14. https://doi.org/10.1186/1477-7525-2-14

Rapport F, Wainwright P. Phenomenology as a paradigm of movement. *Nursing Inquiry.* 2006;13:228–236.

Ramírez-Maestre, C., de la Vega, R., Sturgeon, J., & Peters, M. (2019). Editorial: Resilience resources in chronic pain patients: The path to adaptation. *Frontiers in psychology, 10*, 2848-2848. doi:10.3389/fpsyg.2019.02848.

Ramírez-Maestre, C., Esteve, R., López-Martínez, A., Serrano-Ibáñez, E., Ruiz-Párraga, G., & Peters, M. (2018). Goal adjustment and well-being: The role of optimism in patients with chronic pain. *Annals of Behavioral Medicine, 53*(7), 597-607. doi:10.1093/abm/kay070.

Ravn, S., Vang, M., Vaegter, H., & Andersen, T. (2018). Pain-related acceptance as a mediator in the fear avoidance model of chronic pain: A preliminary study. *Pain medicine (Malden, Mass.), 19*(9), 1764-1771. doi:10.1093/pm/pnx223.

Redsand, S. (2006). *Viktor Frankl: A life worth living*. New York, USA: Clarion books.

Reich, J., Zautra, A., & Hall, J. (2010). *Handbook of adult resilience*. New York, USA: The Guildford Press.

Reiners, G (2012) Understanding the Differences between Husserl's (Descriptive) and Heidegger's (Interpretive) Phenomenological Research. J Nurs Care 1:119. doi:10.4172/2167-1168.1000119

Reissman, C. (2001). 'Analysis of personal narratives'. In J. Gubrium & A. Holstein (Eds.), *Handbook of Interview Research, .* Thousands Oaks, USA: Sage Publicationd Inc.

Riessman, C. K., & Mattingly, C. (2005). Introduction: toward a context-based ethics for social research in health. *Health (London, England : 1997)*, *9*(4), 427–429. https://doi.org/10.1177/1363459305056411

Reissman, C. (2007). *Narrative methods for the human sciences*. New York, USA: Sage Publicationd Inc.

Renjith, V., Yesodharan, R., Noronha, J., Ladd, E., & George, A. (2021). Qualitative methods in health care research. *International Journal of Preventive Medicine, 12*(1). doi:10.4103/ijpvm.IJPVM_321_19.

Richards, L., Goetter, E., Wojtowicz, M., & Simon, N. (2016). *Stigma and health services use among veterans and military personnel* doi:10.1007/978-3-319-27580-2_12

Richardson, N., Lamson, A., Smith, M., Eagan, s., Zvonkovic, A., & Jensen, J. (2020). Defining moral injury among military populations: A systematic review. *Journal of Traumatic Stress, 33*(4), 575-586. doi:10.1002/jts.22553.

Risdon, A., Eccleston, C., Crombez, G., & McCracken, L. (2003). How can we learn to live with pain? A Q-methodological analysis of the diverse understandings of acceptance of chronic pain. *Social science & medicine (1982)*, *56*(2), 375–386. https://doi.org/10.1016/s0277-9536(02)00043-6

Rivera, J., Amuan, M., Morris, R., Johnson, A., & Pugh, M. (2017). Arthritis, comorbidities, and care utilization in veterans of operations enduring and Iraqi Freedom. *J Orthop Res, 35*(3), 682-687. doi:10.1002/jor.23323.

Robson, C. (2011). *Real world research: A resource for social-scientists and practitioner-researchers* (3rd ed.). Hoboken, USA: Blackwell Publishing.

Roddy, M. K., Boykin, D. M., Hadlandsmyth, K., Marchman, J. N., Green, D. M., Buckwalter, J. A., 4th, Garvin, L., Zimmerman, B., Bae, J., Cortesi, J., Rodrigues, M., Embree, J., Rakel, B. A., & Dindo, L. (2020). One-day Acceptance and Commitment Therapy workshop for preventing persistent post-surgical pain and dysfunction in at-risk veterans: A randomized controlled trial protocol. *Journal of psychosomatic research, 138*, 110250. https://doi.org/10.1016/j.jpsychores.2020.110250

Rodriguez, A., & Smith, J. (2018). Phenomenology as a healthcare research method. *Evid Based Nurs, 21*(4), 96-98. doi:10.1136/eb-2018-102990.

Rogers, W., Kazis, L., Miller, D., Skinner, K., Clark, J., Spiro, A., & Fincke, R. (2004). Comparing the health status of VA and non-VA ambulatory patients: the veterans' health and medical outcomes studies. *J Ambul Care Manage, 27*(3), 249-262. doi:10.1097/00004479-200407000-00009.

Romanyshyn, R. (2013). *The wounded researcher: research with soul in mind*. Abingdon-on Thames, UK: Routledge.

Rosen, A. K., O'Brien, W., Chen, Q., Shwartz, M., Itani, K., & Gunnar, W. (2017). Trends in the Purchase of Surgical Care in the Community by the Veterans Health Administration. *Medical care, 55 Suppl 7 Suppl 1*, S45–S52. https://doi.org/10.1097/MLR.0000000000000707

Rosenburger, P., Philip, E., Lee, A., & Kerns, R. (2011). The VHA's national pain management strategy: Implementing the stepped care model. *MD edge: Federal Practitioner, 28*(8), 39.

Rossman, G., & Rallis, S. (2011). *Learning in the field: An introduction to qualitative research*. New York, USA: Sage Publications Inc.

Roy, R. (2004). *Chronic Pain, Loss, and Suffering: A Clinical Perspective*. University of Toronto Press. doi:10.3138/9781442672949

Royal College of Nursing. (2014). The nursing role in integrated care models: reflecting on the United States' experience. *Royal College of Nursing*.

Saberi, O. (2004). Dealing with grief and depression. *Amputee coalition*.

Sadler, G., Lee, H., Lim, R., & Fullerton, J. (2010). Recruitment of hard-to-reach population subgroups via adaptations of the snowball sampling strategy. *Nurs Health Sci, 12*(3), 369-374. doi:10.1111/j.1442-2018.2010.00541.x.

Santiago, E., Brown, C., Mahmoud, R., & Carlisle, J. (2020). Hermeneutic phenomenological human science research method in clinical practice settings: An integrative literature review. *Nurse Education in Practice, 47*, 102837. doi:10.1016/j.nepr.2020.102837.

Satre, J.-P. (1992). *Quiet moments in a war: the letters of Jean-Paul Sartre to Simone de Beauvoir, 1940-1963*. New York, USA: Charles Scribers & Sons.

Satre, J.-P. (2003). *Being and nothingness: An essay on phenomenological ontology. .* Abingdon-onThames, UK: Routledge.

Savin-Baden, M. (2013). *Qualitative research: The essential guide to theory and practice. .* Abingdon-onThames, UK: Routledge.

Sayer, N., Chiros, C., Sigford, B., Scott, S., Clothier, B., Pickett, T., & Lew, H. (2008). Characteristics and rehabilitation outcomes among patients with blast and other injuries sustained during the Global War on Terror. *Arch Phys Med Rehabil, 89*(1), 163-170. doi:10.1016/j.apmr.2007.05.025.

Scaer, R. C. (2001). *The body bears the burden: Trauma, dissociation, and disease*. Haworth Press.

Schwartz, C. E., Andresen, E. M., Nosek, M. A., Krahn, G. L., & RRTC Expert Panel on Health Status Measurement (2007). Response shift theory: important implications for measuring quality of life in people with disability. *Archives of physical medicine and rehabilitation*, *88*(4), 529–536. https://doi.org/10.1016/j.apmr.2006.12.032

Scotland, J. (2012). Exploring the philosophical underpinnings of research: Relating ontology and epistemology to the methodology and methods of the scientific, interpretive, and critical research paradigms. *English Language Teaching, 5*, 9-16.

Scott, K., Von Korff, M., Alonso, J., Angermeyer, M., Bromet, E., Fayyad, J., de Girolamo, G., Demyttenaere, K., Gasquet, I., Gureje, O., Haro, J., He, Y., Kessler, R., Levinson, D., Medina Mora, M., Oakley Browne, M., Ormel, J., Posada-Villa, J., Watanabe, M., & Williams, D. (2009). Mental-physical co-morbidity and its relationship with disability: results from the World Mental Health Surveys. *Psychol Med, 39*(1), 33-43. doi:10.1017/s0033291708003188.

Seal, K., Bertenthal, D., Barnes, D., Byers, A., Strigo, I., & Yaffe, K. (2017). Association of Traumatic Brain Injury With Chronic Pain in Iraq and Afghanistan veterans: Effect of comorbid mental health conditions. *Arch Phys Med Rehabil, 98*(8), 1636-1645. doi:10.1016/j.apmr.2017.03.026.

Seidman, (2006) *Interviewing as Qualitative Research: A Guide for Researchers in Education and the Social Sciences*. 3rd edition. New York, Teachers' College Press.

Sharp, M., Busuttil, W., & Murphy, D. (2019). Examining physical health conditions and associations of pain, obesity, and function of UK Veterans diagnosed with PTSD and other mental health conditions. *Journal of Military, Veteran and Family Health, 5*(2), 75-87. doi:10.3138/jmvfh.2018-0051.

Sherman, N. (2010a). Soldiers' moral wounds. *The Chronicle of Higher Education*.

Sherman, N. (2010b). *The untold war: Inside the hearts , minds, and souls of our soldiers*. New York, USA: Norton.

Sim M, Clarke D, Forbers A, Glass D, Gwini S, Ikin J et al. (2015). *Australian Gulf War Veterans' Follow Up Health Study*: technical report 2015. Melbourne: Monash University.

Silva, M., VandenBussche Jantz, A., Klocksieben, F., Monden, K., Rabinowitz, A., Cotner, B., Dillahunt-Aspillaga, C., & Nakase-Richardson, R. (2021). Unmet rehabilitation needs indirectly influence life satisfaction 5 years after traumatic brain injury: A veterans affairs TBI model systems study. *Arch Phys Med Rehabil, 102*(1), 58-67. doi:10.1016/j.apmr.2020.08.012.

Silverman, D. (2014). *Interpreting qualitative data*. New York, USA: Sage Publications Inc.

Smith, J.A., Flowers, P. and Larkin, M.(2009) *Interpretative Phenomenological Analysis: Analysis, Theory, Method and Research.* London:Sage

Smith, B., Hendrick, P., Smith, T., Bateman, M., Moffatt, F., Rathleff, M., Selfe, J., & Logan, P. (2017). Should exercises be painful in the management of chronic musculoskeletal pain? A systematic review and meta-analysis. *Br J Sports Med, 51*(23), 1679-1687. doi:10.1136/bjsports-2016-097383.

Smith, B., Moffatt, F., Hendrick, P., Bateman, M., Rathleff, M., Selfe, J., Smith, T., & Logan, P. (2018). The experience of living with patellofemoral pain-loss, confusion and fear-avoidance: a UK qualitative study. *BMJ Open, 8*(1), e018624. doi:10.1136/bmjopen-2017-018624.

Smith, B., & Zautra, A. (2008). Vulnerability and resilience in women with arthritis: test of a two-factor model. *J Consult Clin Psychol, 76*(5), 799-810. doi:10.1037/0022-006x.76.5.799.

Smith, D. (2013). *Husserl (The Routledge philosophers)* (2nd ed.). Abingdon-onThames, UK: Routledge.

Smith, J. (1999). Identity development during the transition to motherhood: An interpretative phenomenological analysis. *Journal of Reproductive and Infant Psychology, 17*(3), 281-299. doi:10.1080/02646839908404595.

Smith, J.A. (2004). Reflecting on the development of Interpretative Phenomenological Analysis and its contribution to qualitative research in psychology. *Qualitative Research in Psychology* 1, 39-54.

Smith, J. (2007). Hermeneutics, human sciences and health: linking theory and practice. *International Journal of Qualitative Studies on Health and Well-being, 2*(1), 3-11. doi:10.1080/17482620601016120.

Smith, J. (2018). "Yes it is phenomenological": A reply to Max Van Manen's critique of interpretative phenomenological analysis. *Qualitative Health Research, 28*(12), 1955-1958. doi:10.1177/1049732318799577.

Smith, J., & Eatough, V. (2006). Interpretative phenomenological analysis. In G. Breakwell, S. Hammond, & C. Fife-Schaw (Eds.), *Research methods in psychology* (pp. 322-341). New York, USA: Sage Publications Inc.

Smith., J. (2015). *Qualitative psychology, A practical guide to research methods*. New York, USA: Sage Publicationd Inc.

Smith, J., & Osborn, M. (2015). Interpretative phenomenological analysis as a useful methodology for research on the lived experience of pain. *Br J Pain, 9*(1), 41-42. doi:10.1177/2049463714541642.

Snider, D. M (2009) *Forging the Warrior's Character: Moral Precepts from the Cadet Prayer.* New York: McGraw Learning Solutions

Soeters, J., Shields, P., & Rietjens. (2014). *Routledge handbook of research methods in military studies.* . New York, USA: Routledge

Sokol, L. L., Feldshuh, T., & Eger, E. (2021). Finding Hope in Hopelessness and Meaning in Suffering: Dr. Edith Eger's Lessons for Neuropalliative Care. *Journal of palliative medicine*,10.1089/jpm.2021.0146. Advance online publication. https://doi.org/10.1089/jpm.2021.0146

Sokolwski, R. (2008). *Phenomenology of the human person*. Cambridge, UK: Cambridge university Press.

Spear, A., Lawton, G., Staruch, R., & Rickard, R. (2018). Regenerative medicine and war: a front-line focus for UK defence. *npj Regenerative Medicine, 3*(1), 13. doi:10.1038/s41536-018-0053-4.

Stacey, D., Légaré, F., Col, N. F., Bennett, C. L., Barry, M. J., Eden, K. B., Holmes-Rovner, M., Llewellyn-Thomas, H., Lyddiatt, A., Thomson, R., Trevena, L., & Wu, J. H. (2014). Decision aids for people facing health treatment or screening decisions. *The Cochrane database of systematic reviews*, (1), CD001431. https://doi.org/10.1002/14651858.CD001431.pub4

Strahl, C., Kleinknecht, R., & Dinnel, D. (2000). The role of pain anxiety, coping, and pain self-efficacy in rheumatoid arthritis patient functioning. *Behav Res Ther, 38*(9), 863-873. doi:10.1016/s0005-7967(99)00102-3.

Strategy for Our Veterans (2019) Retrieved https://www.gov.uk/government/consultations/strategy-for-our-veterans-uk-government-consultation-paper

Strong, J., Ray, K., Findley, P., Torres, R., Pickett, L., & Byrne, R. (2014). Psychosocial concerns of veterans of operation enduring freedom/operation iraqi freedom. *Health Soc Work, 39*(1), 17-24. doi:10.1093/hsw/hlu002.

Sturgeon, J., & Zautra, A. (2010). Resilience: a new paradigm for adaptation to chronic pain. *Curr Pain Headache Rep, 14*(2), 105-112. doi:10.1007/s11916-010-0095-9.

Sturgeon, J., & Zautra, A. (2013). Psychological resilience, pain catastrophizing, and positive emotions: perspectives on comprehensive modeling of individual pain adaptation. *Curr Pain Headache Rep, 17*(3), 317. doi:10.1007/s11916-012-0317-4.

Sturges JE, Hanrahan KJ. Comparing Telephone and Face-to-Face Qualitative Interviewing: a Research Note. *Qualitative Research*. 2004;4(1):107-118. doi:10.1177/1468794104041110

Sultan, N. (2019). *Heuristic inquiry: Researching human experience holistically*. New York, USA: Sage Publications Inc.

Tam, C., Zeng, C., & Li, X. (2020). Prescription opioid misuse and its correlates among veterans and military in the United States: A systematic literature review. *Drug Alcohol Depend, 216*, 108311. doi:10.1016/j.drugalcdep.2020.108311.

Taylor, S., Bolton, R., Huynh, A., Dvorin, K., Elwy, A., Bokhour, B., Whitehead, A., & Kligler, B. (2019). What should health care systems consider when implementing complementary and integrative health: Lessons from veterans health administration. *J Altern Complement Med, 25*(S1), S52-s60. doi:10.1089/acm.2018.0445.

Taylor, S., Hoggatt, K., & Kligler, B. (2019). Complementary and Integrated Health Approaches: What Do Veterans Use and Want. *J Gen Intern Med, 34*(7), 1192-1199. doi:10.1007/s11606-019-04862-6.

Thompson, J., Heber, A., Zacharias, R., Besemann, M., Gupta, G., Hapidou, E., Buckley, N., Lamoureux, D., & Begley, K. (2020). Out of the shadows: Chronic pain in Canadian Armed Forces veterans — Proceedings of a workshop at the 2019 Forum of the Canadian Institute for Military and Veteran Health Research. *Canadian Journal of Pain, 4*(1), 199-204. doi:10.1080/24740527.2020.1796479.

Thompson, J., Hopman, W., Sweet, J., VanTil, L., MacLean, M., VanDenKerkhof, E., Sudom, K., Poirier, A., & Pedlar, D. (2013). Health-related quality of life of Canadian Forces veterans after transition to civilian life. *Can J Public Health, 104*(1), e15-21. doi:10.1007/bf03405648.

Thompson, J., Zamorski, M., Sweet, J., VanTil, L., Sareen, J., Pietrzak, R., Hopman, W., & MacLean, M. (2014). Roles of physical and mental health in suicidal ideation in Canadian Armed Forces Regular Force veterans. *Can J Public Health, 105*(2), e109-115. doi:10.17269/cjph.105.4217.

Thompson, J., Lockhart, W., Roach, M., Atuel, H. Bélanger, S. Black, T. Castro, C. Cox, D. Cooper, A. De Boer, C., Dentry, S., Hamner, K., Shields, D., Truusa, T. (2017).Veterans' Identities and Well-being in Transition to Civilian Life – *A Resource for Policy Analysts, Program Designers, Service Providers and Researchers.* Report of the Veterans' Identities Research Theme Working Group, Canadian Institute for Military and Veteran Health Research Forum 2016. Charlottetown PE: Research Directorate, Veterans Affairs Canada. Research Directorate Technical Report. 01 June 2017.

Tiffany, E., Wilder, C., Miller, S., & Winhusen, T. (2016). Knowledge of and interest in opioid overdose education and naloxone distribution among US veterans on chronic opioids for addiction or pain. *Drugs: Education, Prevention and Policy, 23*(4), 322-327. doi:10.3109/09687637.2015.1106442.

Tintle, S. M., Forsberg, J. A., Keeling, J. J., Shawen, S. B., & Potter, B. K. (2010). Lower extremity combat-related amputations. *Journal of surgical orthopaedic advances*, *19*(1), 35–43.

Toadvine, T. (2019). Maurice Merleau-Ponty. *The Stanford Encyclopedia of Philosophy Archives: (Spring 2019 Edition).*

Todress, L. (2007). *Embodied inquiry: Phenomenological touchstones for research, psychotherapy, and spirituality* doi:10.1057/9780230598850

U.K. Government. (1989). *Official Secrets act 1989*. London Retrieved from https://www.legislation.gov.uk/ukpga/1989/6/contents.

U.K. Government. (1998). *Human Rights Act 1998*. London Retrieved from https://www.legislation.gov.uk/ukpga/1998/42.

U.K. Government. (2016a). Improvised explosive device events involving UK personnel on Op Herrick in Helmand Province, Afghanistan. Retrieved from https://www.gov.uk/government/statistics/improvised-explosive-device-events-involving-uk-personnel-on-op-herrick-in-helmand-province-afghanistan

U.K. Government. (2016b). Types of injuries sustained by UK service personnel on operations in Afghanistan (Op Herrick) 1 April 2006 to 30 November 2014. Retrieved from https://www.gov.uk/government/statistics/types-of-injuries-sustained-by-uk-service-personnel-on-operations-in-afghanistan-op-herrick-1-april-2006-to-30-november-2014

U.K. Government. (2018). *Data Protection Act 2018*. London Retrieved from https://www.legislation.gov.uk/ukpga/2018/12/contents/enacted.

U.K. Government. (2021). *Statistics at MOD*. London Retrieved from https://www.gov.uk/government/organisations/ministry-of-defence/about/statistics.

U.K Government (2014) Armed Forces Covenant: guidance and support. Retrieved from https://www.gov.uk/government/collections/armed-forces-covenant-supporting-information

U.S. Department of Defense. (2021). *Casualty Status*. Retrieved from https://www.defense.gov/casualty.pdf.

U.S Department of Defense Department of Veterans Affairs (2020) Long-term Impact of Military Relevant Brain Injury Consortium (LIMBIC) Retrieved from https://www.research.va.gov/currents/0120-VA-and-DOD-embark-on-new-endeavor-to-study-mysteries-of-traumatic-brain-injury.cfm

U.S. Department of Defense Department of Veterans Affairs. (2009). *VHA Directive 2009-053. Pain management*. Washington, D.C Retrieved from https://www.va.gov/painmanagement/.

U.S. Department of Defense Department of Veterans Affairs. (2019). *VHA Directive 1172.01: Polytrauma system of care.* Washington D.C Retrieved from https://www.va.gov/OPTOMETRY/docs/VHA_Directive_1172-01_Polytrauma_System_of_Care_1172_01_D_2019-01-24.pdf.

U.S Department of Defense, Department of Veterans Affairs (2019) Traumatic Brain Injuries. https://www.research.va.gov/topics/tbi.cfm

U. S Department of Veterans Affairs (2018) Stepped-care and collaborative-care models for chronic musculoskeletal pain. Retrieved from https://www.research.va.gov/research_in_action/Stepped-care-and-collaborative-care-models-for-chronic-musculoskeletal-pain.cfm

U.S. Department of Veteran Affairs: Department of Veterans Affairs FY 2018–2024 Strategic Plan, 2018. Retrieved from https://www.va.gov/oei/docs/VA2018-2024strategicPlan.pdf

U.S. Department of Defense Department of Veterans Affairs Opiod for Chronic Pain Work Group. (2017). *VA/DoD Clinical practice guideline for opioid therapy for chronic pain*. Washington, D.C. Retrieved from https://www.healthquality.va.gov/guidelines/Pain/cot/.

U.S. Department of Defense Pain Management Task Force. (2010). *Providing a Standardised DOD and VA Vision and Approach to Pain Management to Optimize the Care for Warriors and Their Familes: Final Report*. Washington D.C Retrieved from https://armymedicine.health.mil/Regional-Health-Commands/Office-of-the-Surgeon-General/R2D/Pain-Management.

U.S. Department of Defense Task Force on the Future of Military Health Care. (2007). *Future of military health care: Final report*. Falls Church, VA: Defense Health Board Retrieved from https://www.health.mil/Reference-Center/Reports.

U.S. Food and Drug Administration. (2018). *Stopping the poison pills: combatting the trafficking of illegal fentanyl from china: Testimony of Burke, D.* Washington D.C Retrieved from https://www.fda.gov/news-events/congressional-testimony/stopping-poison-pills-combatting-trafficking-illegal-fentanyl-china-10022018.

U.S. Government Congretional Research Service. (2020). *American war and military operations casualties: Lists and statistics*. Retrieved from https://fas.org/sgp/crs/natsec/RL32492.pdf.

U.S. Government Department of Congress. (2021). *National Defence Authorization Act Section 711: Codification and improvement of procedures for mental health evaluations for members of the Armed Forces.* Washington, D.C. Retrieved from https://www.congress.gov/.

University of South Wales. (2021). Research Governance. Retrieved from https://www.southwales.ac.uk/research/research-expertise/research-governance/

Vaegter, H., Fehrmann, E., Gajsar, H., & Kreddig, N. (2020). Endogenous modulation of pain: The role of exercise, stress, and cognitions in humans. *Clin J Pain, 36*(3), 150-161. doi:10.1097/ajp.0000000000000788.

Zafonte, R., Pascual-Leone, A., Baggish, A., Weisskopf, M. G., Taylor, H. A., Connor, A., Baker, J., Cohan, S., Valdivia, C., Courtney, T. K., Cohen, I. G., Speizer, F. E., & Nadler, L. M. (2019). The Football Players' Health Study at Harvard University: Design and objectives. *American journal of industrial medicine*, *62*(8), 643–654. https://doi.org/10.1002/ajim.22991

Van Den Kerkhof, E., Carley, M., Hopman, W., Ross-White, A., & Harrison, M. (2014). Prevalence of chronic pain and related risk factors in military veterans: a systematic review. *JBI Database of Systematic Reviews and Implementation Reports, 12*(10), 152-186. doi:10.11124/jbisrir-2014-1720.

VanDenKerkhof, E., VanTil, L., Thompson, J., Sweet, J., Hopman, W., Carley, M., & Sudom, K. (2015). Pain in Canadian Veterans: analysis of data from the Survey on Transition to Civilian Life. *Pain Res Manag*, *20*(2), 89-95. doi:10.1155/2015/763768.

Van der Kolk B. A. (1994). The body keeps the score: memory and the evolving psychobiology of posttraumatic stress. *Harvard review of psychiatry*, *1*(5), 253–265. https://doi.org/10.3109/10673229409017088

Van Manen, M. (2016). *Researching lived experience: human science for an action sensitive pedagogy* (2nd ed.). New york, USA: Routledge.

Vest, B., Kulak, J., Hall, V., & Homish, G. (2018). Addressing patients' veteran status: Primary care providers' knowledge, comfort, and educational Needs. *Fam Med, 50*(6), 455-459. doi:10.22454/FamMed.2018.795504.

Veterans Affairs Canada (2019) VAC announdes creation of second centre of excellence. Retrieved from https://www.canada.ca/en/veterans-affairs-canada/news/2019/07/vac-announces-creation-of-second-centre-of-excellence.html

Veterans Medicines Advice and Therapeutic Education Services (2017) *"Teaming up against chronic pain guide"*. Retrieved from https://www.veteransmates.net.au/documents/10184/42679/Teaming+up+against+chronic+pain/6b1d80f2-6ade-4620-92e5-f1d2e3d83414?version=1.1&inheritRedirect=true

Vlaeyen, J., & Linton, S. (2000). Fear-avoidance and its consequences in chronic musculoskeletal pain: a state of the art. *Pain, 85*(3), 317-332. doi:10.1016/s0304-3959(99)00242-0.

Vowles, K. E., & McCracken, L. M. (2008). Acceptance and values-based action in chronic pain: a study of treatment effectiveness and process. *Journal of consulting and clinical psychology*, *76*(3), 397–407. https://doi.org/10.1037/0022-006X.76.3.397

Wall P. D. (1979). On the relation of injury to pain. The John J. Bonica lecture. *Pain*, *6*(3), 253–264. https://doi.org/10.1016/0304-3959(79)90047-2

Waller, M., Kanesarajah, J., Zheng, W., & Dobson, A. (2014). *The Middle East Area of Operations (MEAO) mortality and cancer incidence study*. The University of Queensland. Retrieved from: https://espace.library.uq.edu.au/view/UQ:325366

Walsh, I., Holton, J., Bailyn, L., Fernandez, W., Levina, N., & Glaser, B. (2015). What grounded theory is: A critically reflective conversation among scholars. *Organizational Research Methods, 18*(4), 581-599. doi:10.1177/1094428114565028.

Warth, M., Koehler, F., Weber, M., Bardenheuer, H., Ditzen, B., & Kessler, J. (2019). "Song of Life (SOL)" study protocol: a multicenter, randomized trial on the emotional, spiritual, and psychobiological effects of music therapy in palliative care. *BMC Palliat Care, 18*(1), 14. doi:10.1186/s12904-019-0397-6.

Weeks J. (2014). (Integrative) "Whole Health" Tops Interests for VA in the President's Planning Budget … plus more. *Integrative medicine (Encinitas, Calif.), 13*(1), 14–16.

Weir, David & Jackson, James & Sonnega, Amanda. (2009). National Football League Player Care Foundation Study of Retired NFL Players. Retrieved from http://ns.umich.edu/Releases/2009/Sep09/FinalReport.pdf

Welsh Assembly Government (2019)Living with Persistent Pain in Wales. Retrieved from https://gov.wales/people-experiencing-persistent-pain-guidance.

Welsh Assembly Government (2008) Designed to Improve Health and the Management of Chronic Conditions in Wales: Service Improvement Plan 2008-2011, Cardiff, Welsh Assembly Government

Wertli, M., Rasmussen-Barr, E., Held, U., Weiser, S., Bachmann, L., & Brunner, F. (2014). Fear-avoidance beliefs-a moderator of treatment efficacy in patients with low back pain: a systematic review. *Spine J, 14*(11), 2658-2678. doi:10.1016/j.spinee.2014.02.033.

Wester, F. (2009). *Soldier spirituality in a combat zone: preliminary findings about correlations with ethics and Resiliency*. Institute for National Security Ethics and Leadership. Retrieved from: http://isme.tamu.edu/ISME11/Wester-ISME2011.pdf

Wilder, C. M., Miller, S. C., Tiffany, E., Winhusen, T., Winstanley, E. L., & Stein, M. D. (2016). Risk factors for opioid overdose and awareness of overdose risk among veterans prescribed chronic opioids for addiction or pain. *Journal of addictive diseases, 35*(1), 42–51. https://doi.org/10.1080/10550887.2016.1107264

Whittemore, R., Chase, S., & Mandle, C. (2001). Validity in qualitative research. *Qual Health Res, 11*(4), 522-537. doi:10.1177/104973201129119299.

Wijma, A., Speksnijder, C., Crom-Ottens, A., Knulst-Verlaan, J., Keizer, D., Nijs, J., & van Wilgen, C. (2018). What is important in transdisciplinary pain neuroscience education? A qualitative study. *Disabil Rehabil, 40*(18), 2181-2191. doi:10.1080/09638288.2017.1327990.

Wilson E, Horsley K & van der Hoek R (2005c). *Cancer incidence in Australian Vietnam Veterans study 2005.* Canberra: DVA.

Wilson, P.H. 2008. "Defining Military Culture." *The Journal of Military History* 72(1):11–41. https://doi. org/10.1353/jmh.2008.0041.

Williamson, V., Greenberg, N., & Stevelink, S. (2019). Perceived stigma and barriers to care in UK Armed Forces personnel and veterans with and without probable mental disorders. *BMC psychology*, *7*(1), 75. https://doi.org/10.1186/s40359-019-0351-7

Wood, P. R., Haldane, A. G., & Plimmer, S. E. (2010). Anaesthesia at Role 4. *Journal of the Royal Army Medical Corps*, *156*(4 Suppl 1), 308–310. https://doi.org/10.1136/jramc-156-04s-07

Wool, Z. (2015). After War: The Weight of Life at Walter Reed. Durham, USA: Duke University Press

Wool, Z. H., & Messinger, S. D. (2012). Labors of love: the transformation of care in the Non-Medical Attendant program at Walter Reed Army Medical Center. *Medical anthropology quarterly*, *26*(1), 26–48. https://doi.org/10.1111/j.1548-1387.2011.01195.x

World Medical Association. (2013). World Medical Association declaration of Helsinki: ethical principles for medical research involving human subjects. *Jama*, *310*(20), 2191-2194. doi:10.1001/jama.2013.281053.

Wright, L. J., Zautra, A. J., & Going, S. (2008). Adaptation to early knee osteoarthritis: the role of risk, resilience, and disease severity on pain and physical functioning. *Annals of behavioral medicine : a publication of the Society of Behavioral Medicine*, *36*(1), 70–80. https://doi.org/10.1007/s12160-008-9048-5

Yardley, L. (2000). Dilemmas in qualitative health research. *Psychology & Health*, *15*(2), 215-228. doi:10.1080/08870440008400302.

Zahavi, D. (2018). *Phenomenology: The basics*. New York, USA: Routledge.

Zale, E., & Ditre, J. (2015). Pain-related fear, disability, and the fear-avoidance model of chronic pain. *Curr Opin Psychol*, *5*, 24-30. doi:10.1016/j.copsyc.2015.03.014.

Zale, E. L., Lange, K. L., Fields, S. A., & Ditre, J. W. (2013). The relation between pain-related fear and disability: a meta-analysis. *The journal of pain*, *14*(10), 1019–1030. https://doi.org/10.1016/j.jpain.2013.05.005

Yeung, E. W., Arewasikporn, A., & Zautra, A. J. (2012). Resilience and chronic pain. *Journal of Social and Clinical Psychology*, *31*(6), 593–617. https://doi.org/10.1521/jscp.2012.31.6.593

Ziadni, M., You, D., Johnson, L., Lumley, M., & Darnall, B. (2020). Emotions matter: The role of emotional approach coping in chronic pain. *Eur J Pain*, *24*(9), 1775-1784. doi:10.1002/ejp.1625.

Zoteyeva, V., Forbes, D., Rickard, N. (2015) Military veterans' use of music-based emotion regulation for managing mental health issues. *Psychology of Music*, Volume 44, Issue 3, 307-323

Appendices

Appendix 1: Question Schedule

Version 4: 1st of October 2013

- Informal Interview schedule for the study entitled: combat veterans living with chronic pain.

Thank you for agreeing to be interviewed. The interview should last about 30-60 minutes if you wish to pause, stop, or finish the interview at any time, please let me know. Also, if I ask a question that you are unable or don't want to answer, let me know and we shall move on. I am interested to hear about your experiences of being injured and living with chronic pain.

Are you also happy for me to record the interview?

Interview themes: Military experience, experiences with pain, living with pain

Background Opening Question: Firstly, I would like to ask you about your military service/experiences:

Prompt:- How long have you served?

- When did you serve?
- What deployments did you complete?

1. Can you tell me about your experience of being injured on deployment? Prompt:- What injuries did you receive?

- Have your injuries caused any other health related problems?
- Did you develop any other conditions related to your injuries?

2. Can you tell me about your experiences with the pain and how it was treated? Prompt:- Did the nurses ask about your pain?

- How was your pain managed?
- Were other forms of therapies used to help with the pain? OT/ Physio/ Acupuncture? Relaxation, guided imagery, music?

3. After leaving the military, can you tell me about your experience and how the pain is now?

Prompts:- How is it affecting you?

- How is it affecting your everyday life?
- Do you have support with managing the pain?
- Do you have any physiotherapy or any type of therapies to help with the pain?
- Is your pain medication helping?

4. **Can you tell me about your coping mechanisms for the pain?**

Prompt:-What coping mechanisms do you use?

- What helps you through the pain?
- How do you feel pain has affected your wellbeing?
- Do you use music at all to help manage the pain? If so, how has it helped?

5. **From your experiences of being injured and living with pain; what do you feel could be better to help with managing pain?**

Prompt:- For Example- is it to do with pain relief?

- Is it to do with Understanding pain better?
- Or better integrated support of treatments?
- Or better online help systems or self- help support for veterans?
- Or nothing at all; the support given for chronic pain is good.

6. **To inform better awareness of pain in combat veterans; what are your thoughts on filling an online questionnaire on wellbeing and pain?**

Appendix 2: Data Analysis

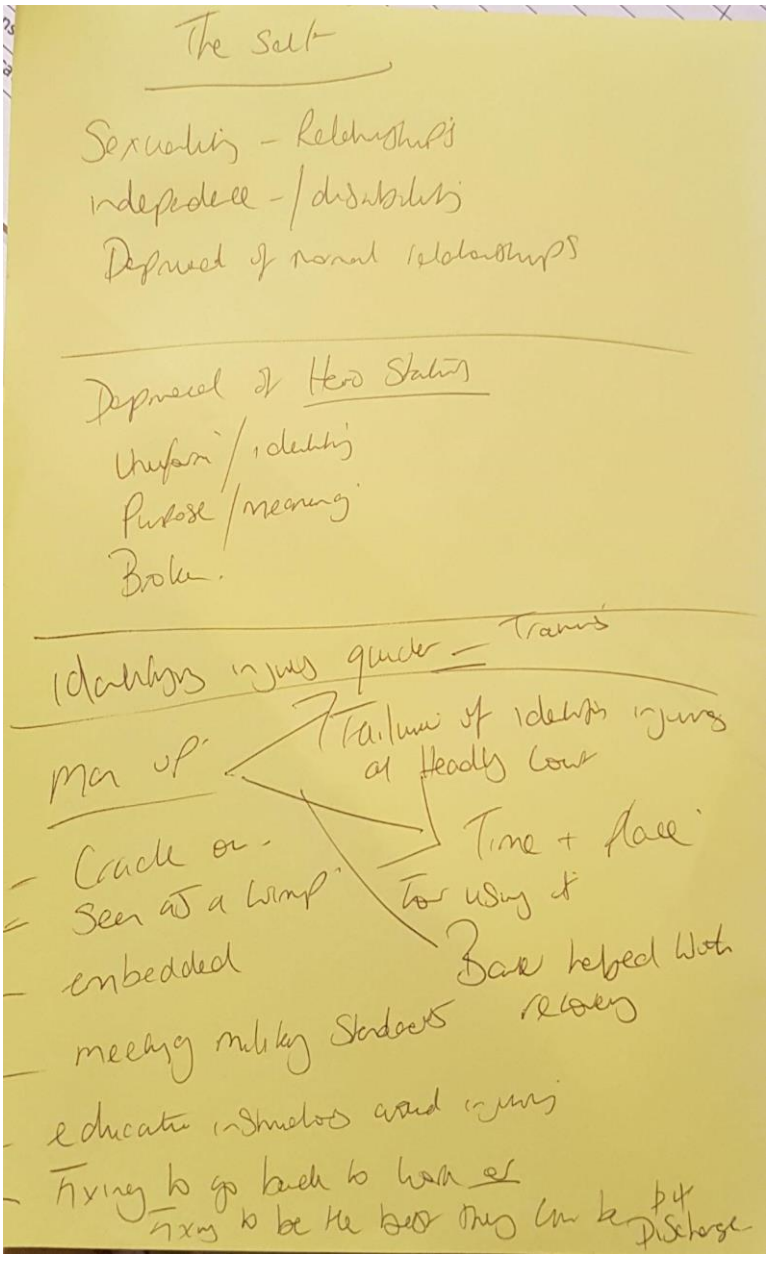
Analysis steps and the development of emerging themes whilst using the Smith Model of IPA

Step1- Reading and re reading transcription- immersing myself in the interviews

Step 2- More detailed note taking whilst also listening to the interviews.

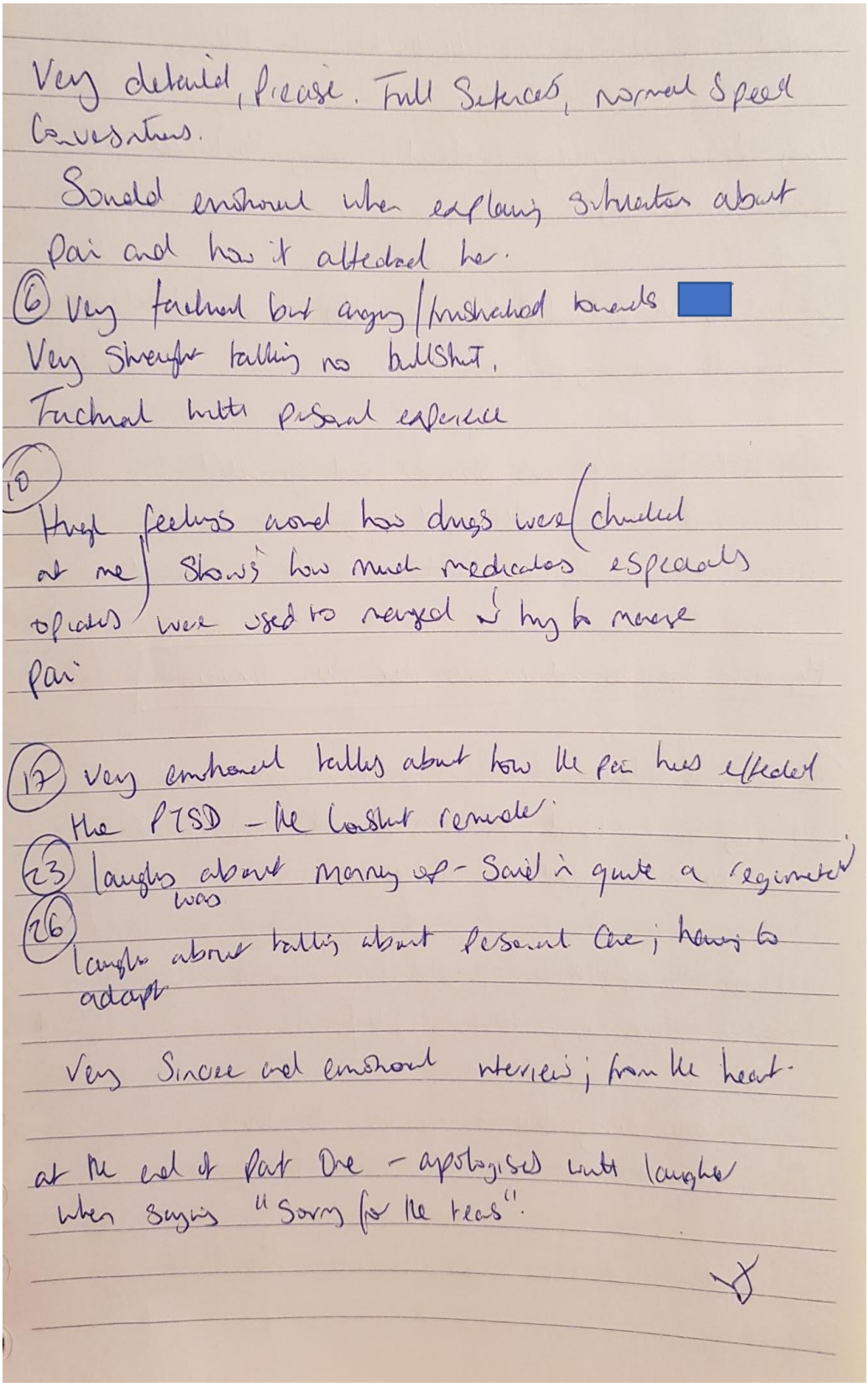
Step 2b - Going back and moving between step 1 and 2.

Please see photos:- for examples of this below



1 Further personal notes taken of thoughts

2. Notes from interview –part 1



Very detailed, Precise. Full Sentences, normal Speed Conversations.

Sounded emotional when explaining situations about Pat and how it affected her.

(6) Very factual but angry/frustrated towards [redacted]

Very Strength talking no bullshit.

Factual with personal experience

(10) Huge feelings around how drugs were (chucked at me) Shows how much medication especially opiates were used to numbed up by to reverse Pat

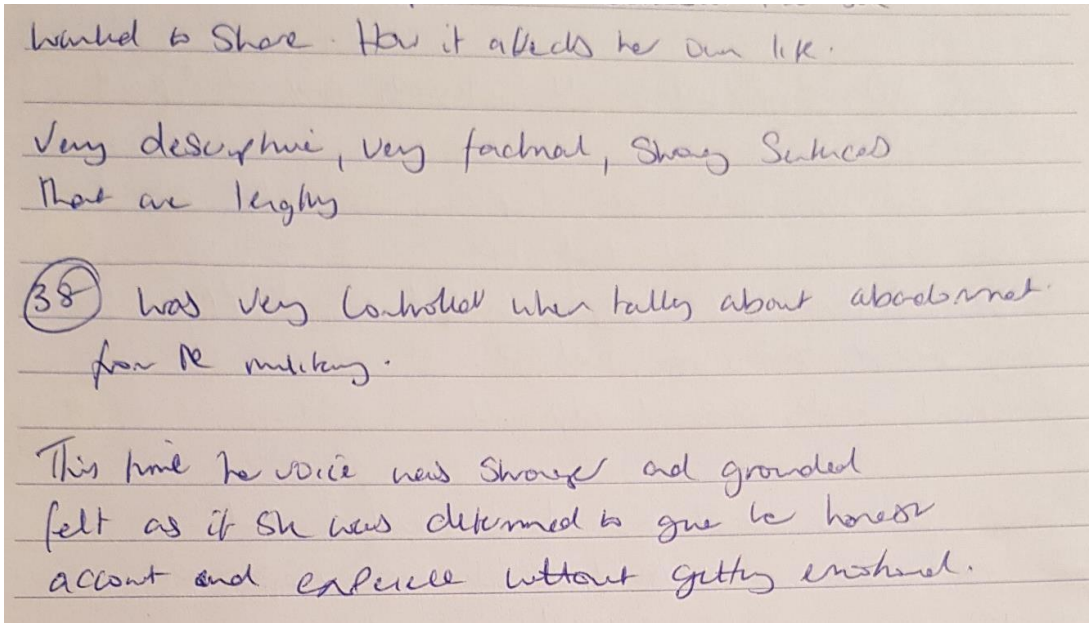
(17) Very emotional talking about how the Pat has effected the PTSD - the hardest remarks

(23) laughs about Mummy up - Said it quite a regimented was

(26) laughs about talking about present Care; how to adapt

Very Sincere and emotional interview; from the heart.

at the end of Part One - apologised with laughter when saying "Sorry for the tears".



3 Notes from interview part 2 with some further reflection notes. (Further, Own personal reflective journals used for bracketing and personal development)

Step 3 - Developing emerging themes - Working between notes and transcript.

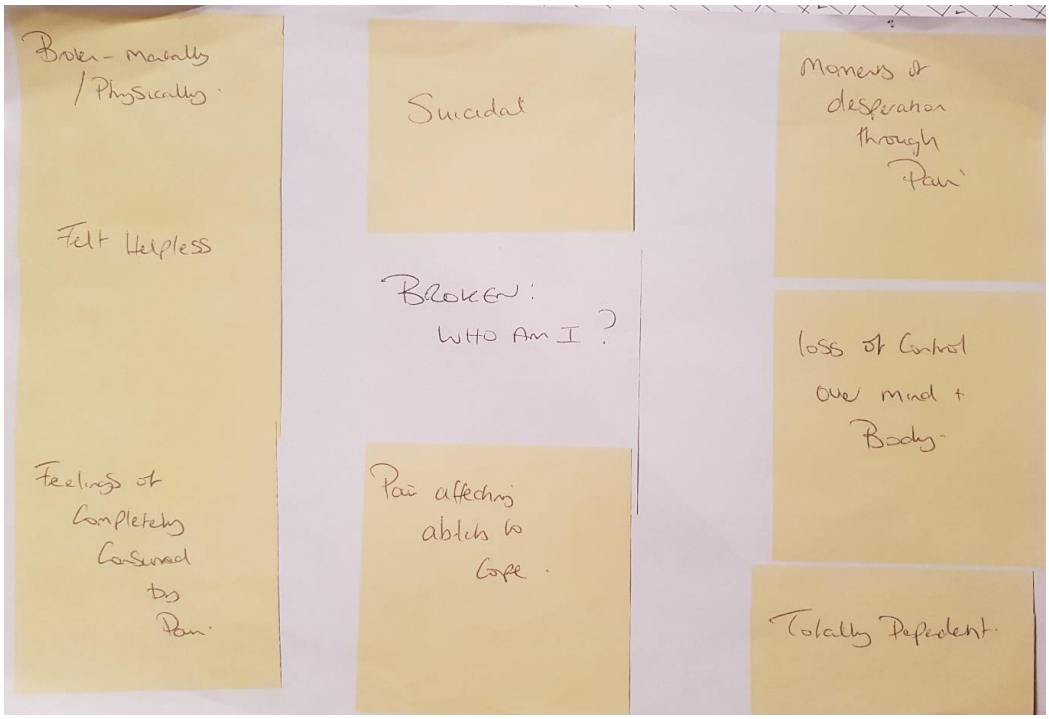
Step 4 - Looking for connections- charting and mapping themes identified from the transcripts. At this point you can go back to look at transcript and notes to reflect, re-evaluate etc

Step 5- Repeated this mapping and charting for each participant emerging themes.

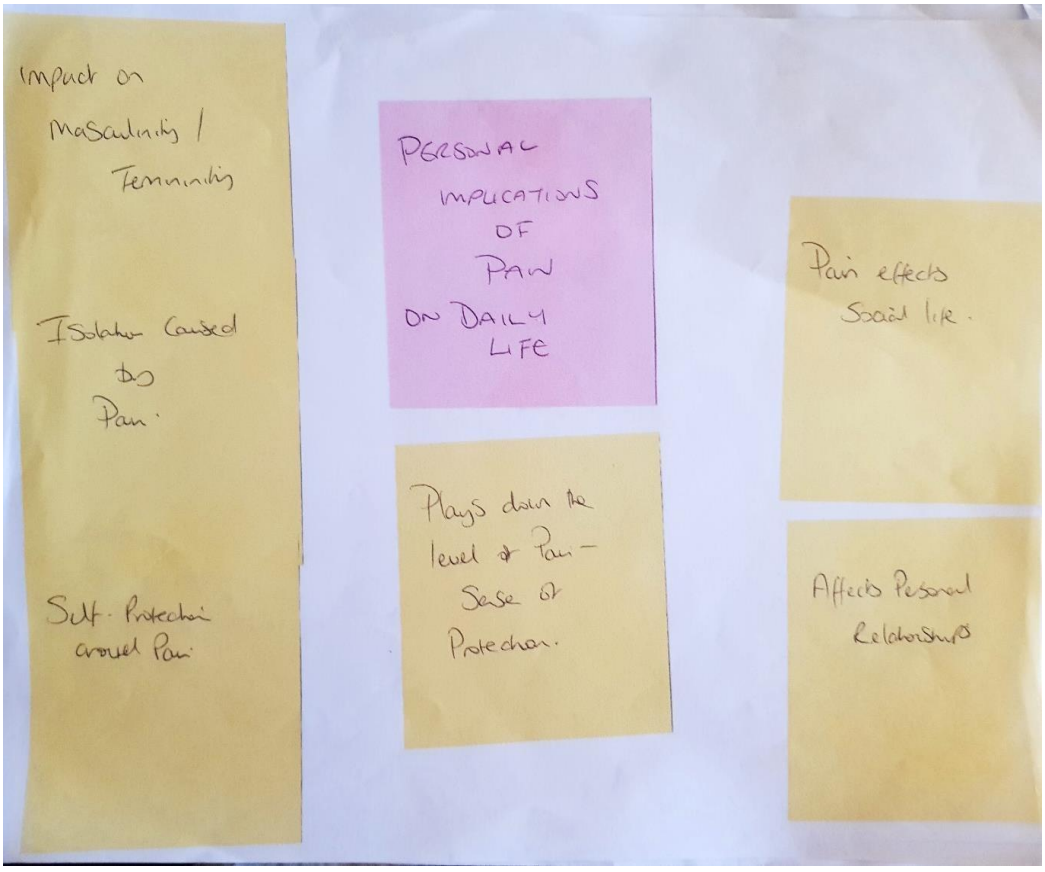
Step 6 – Looking at patterns across participants themes – again using visual post its

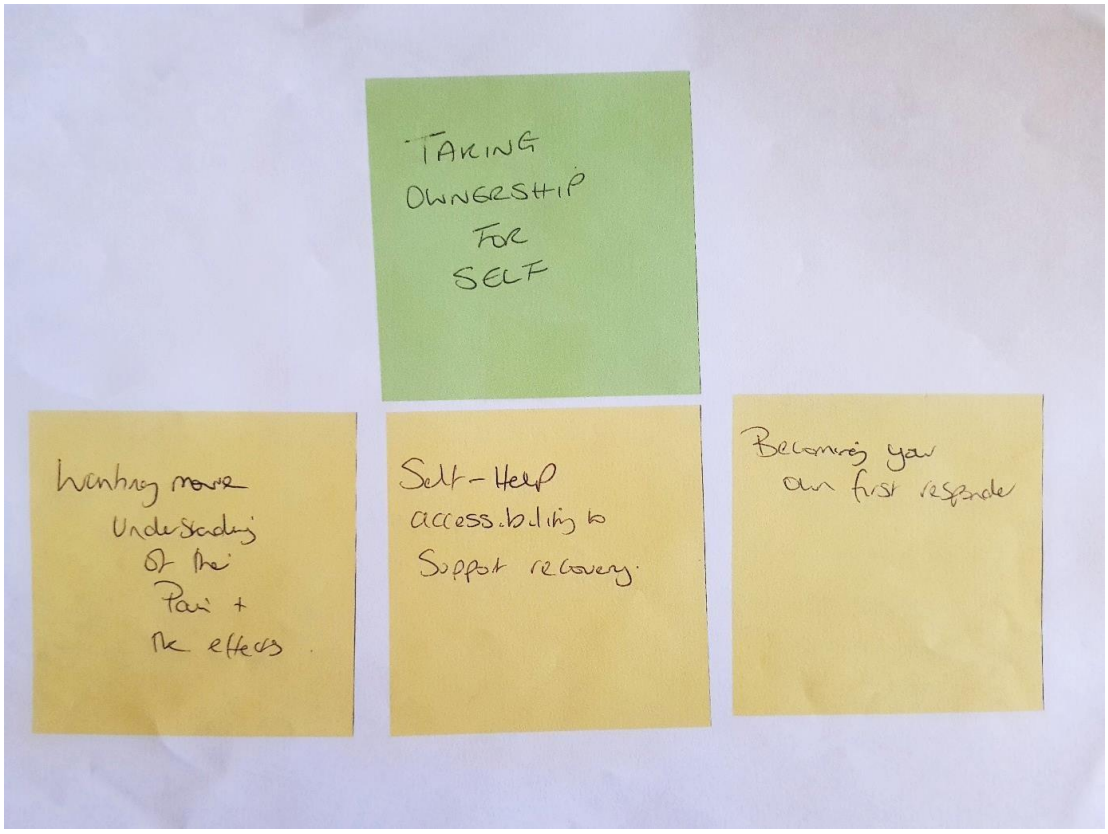
Appendix 3: Developing Superordinate themes

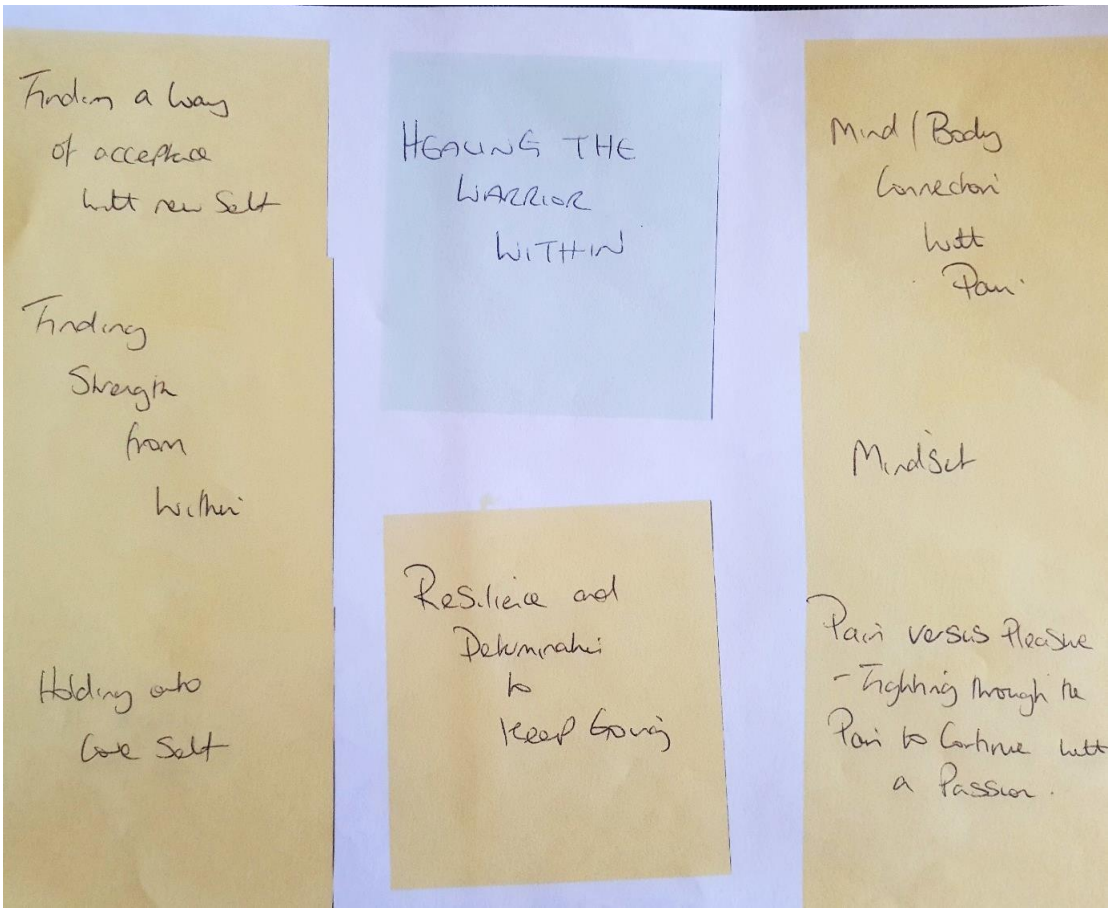
Step 7- Developing a superordinate from the identified correlating sub-themes.

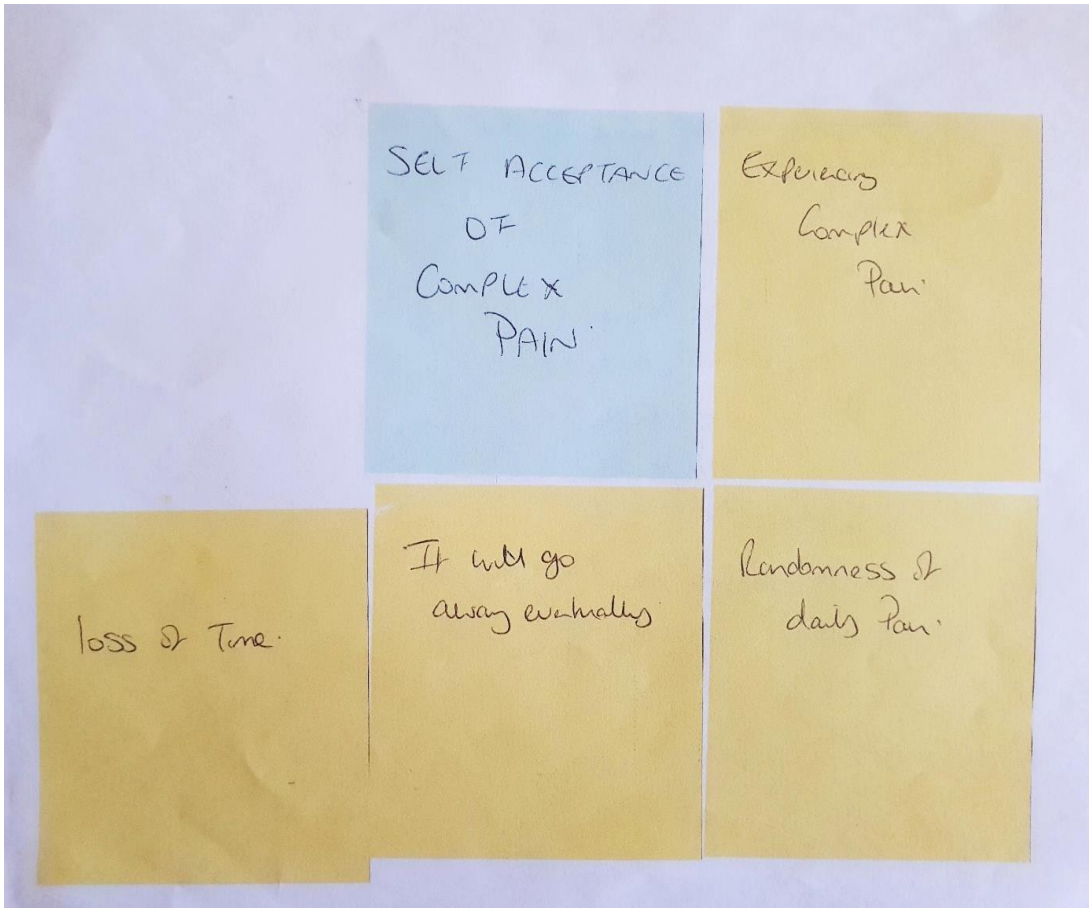


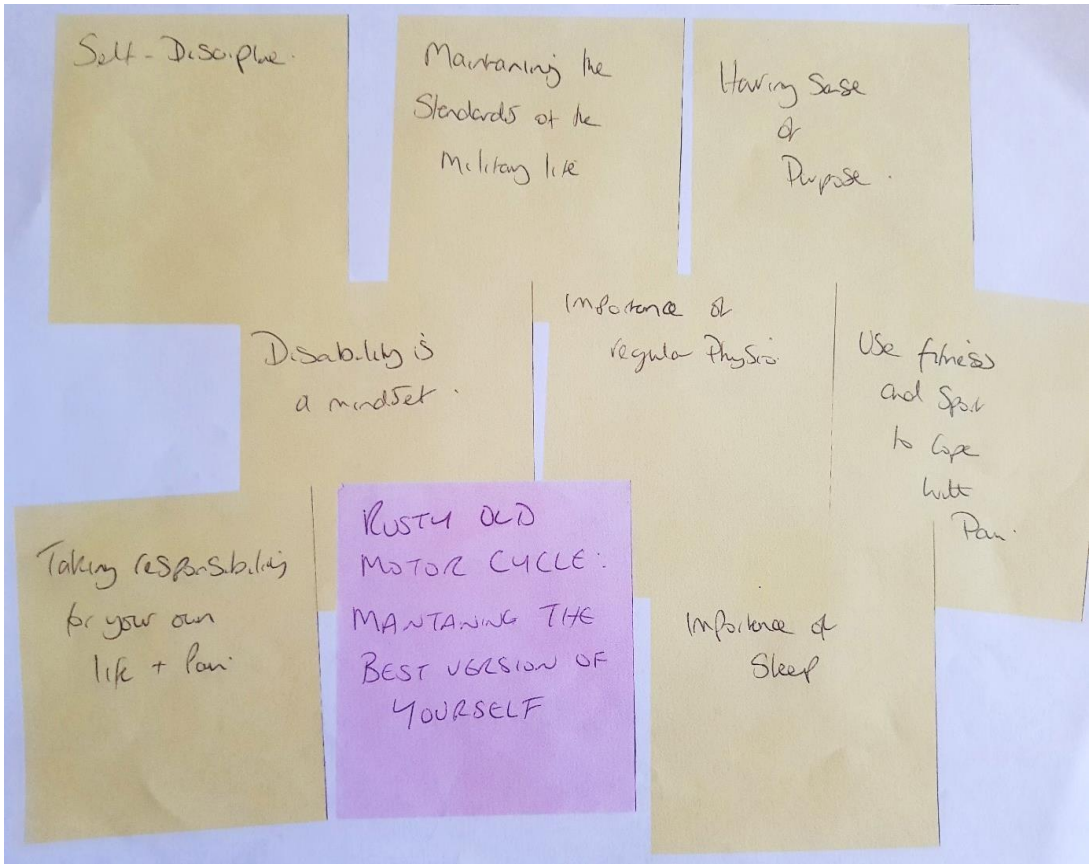
Copy of work in progress of original superordinate ideas and sub themes

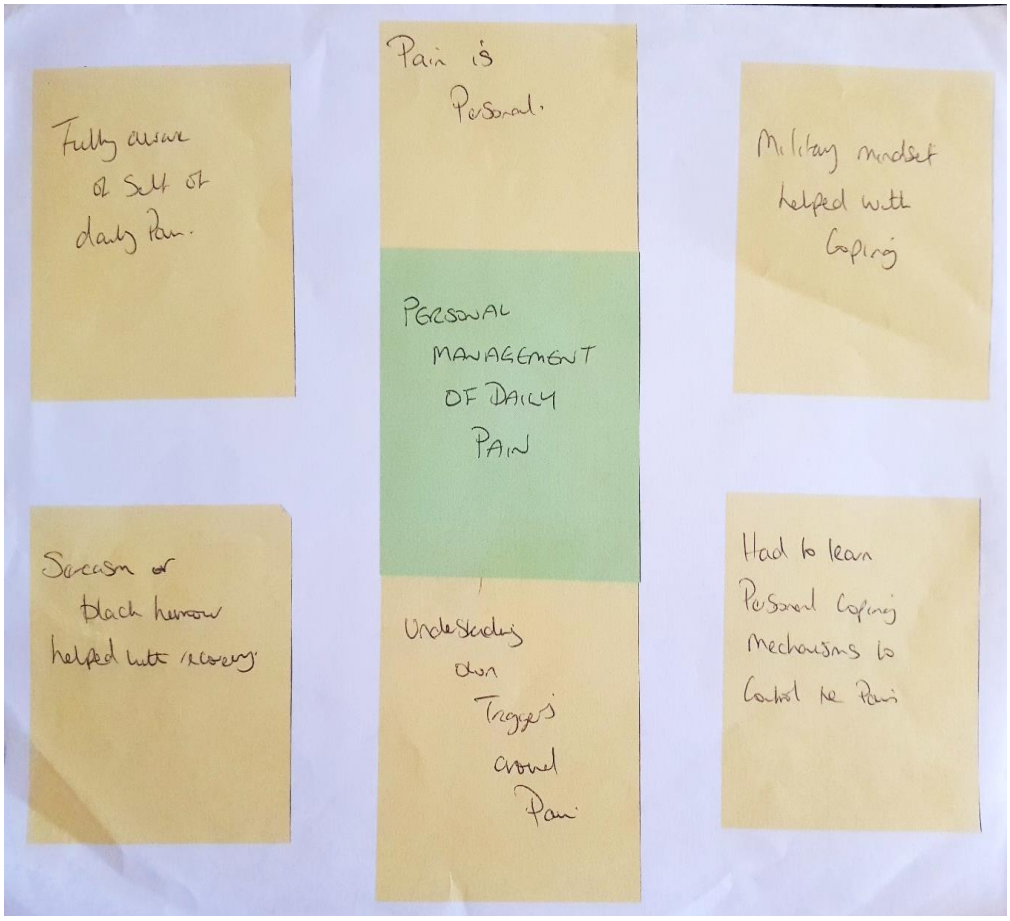


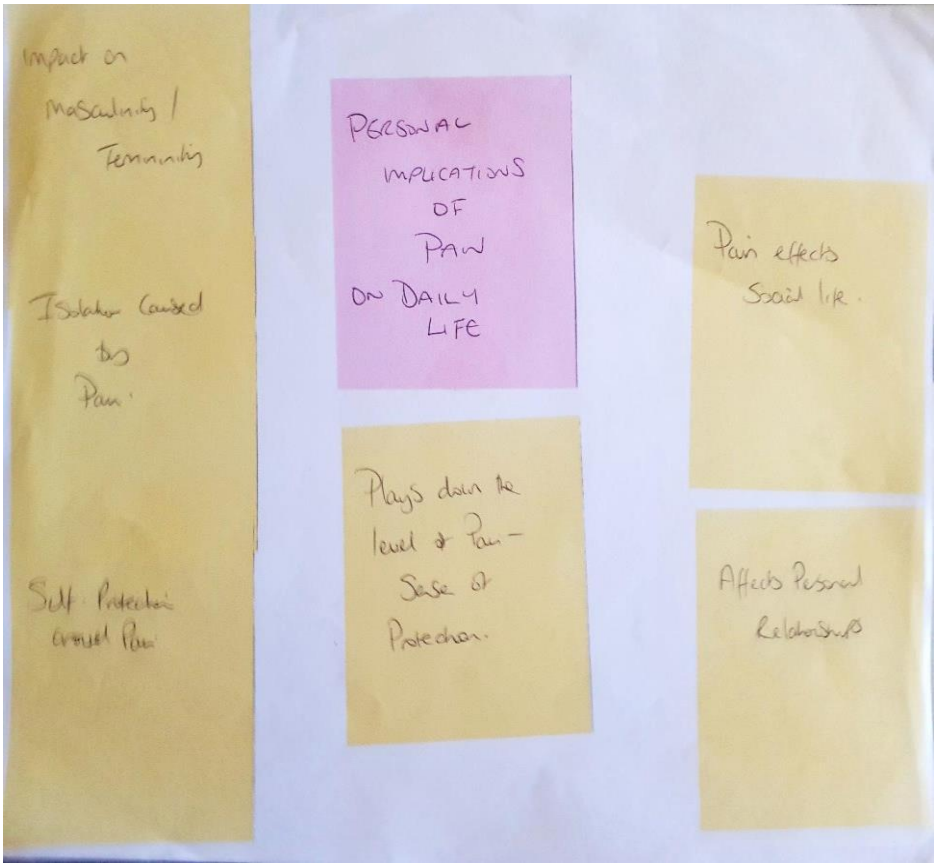

TAKING OWNERSHIP FOR SELF
Having more Understading Of the Pain + the effects
Self-Help accessibility to Support recovery
Becoming your own first responder

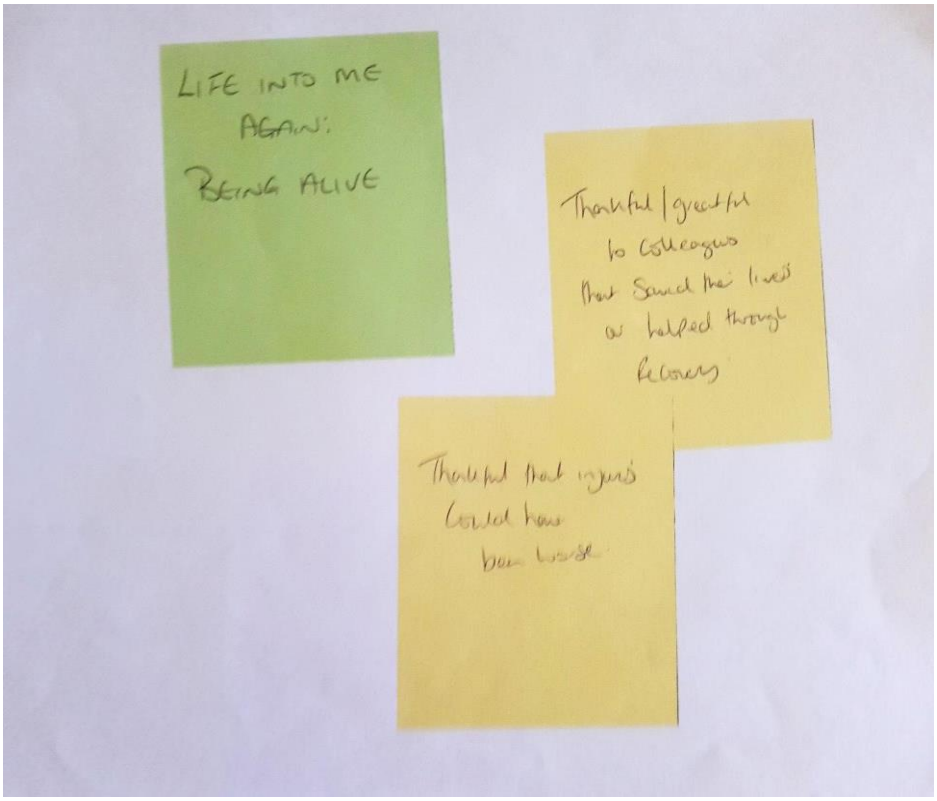

Finding a way of acceptance with new Self
HEALING THE WARRIOR WITHIN
Mind / Body Connection with Pain
Finding Strength from within
Mindset
Resilience and Determination to keep Going
Pain versus Pleasure - Fighting through the Pain to Continue with a Passion
Holding onto Core Self

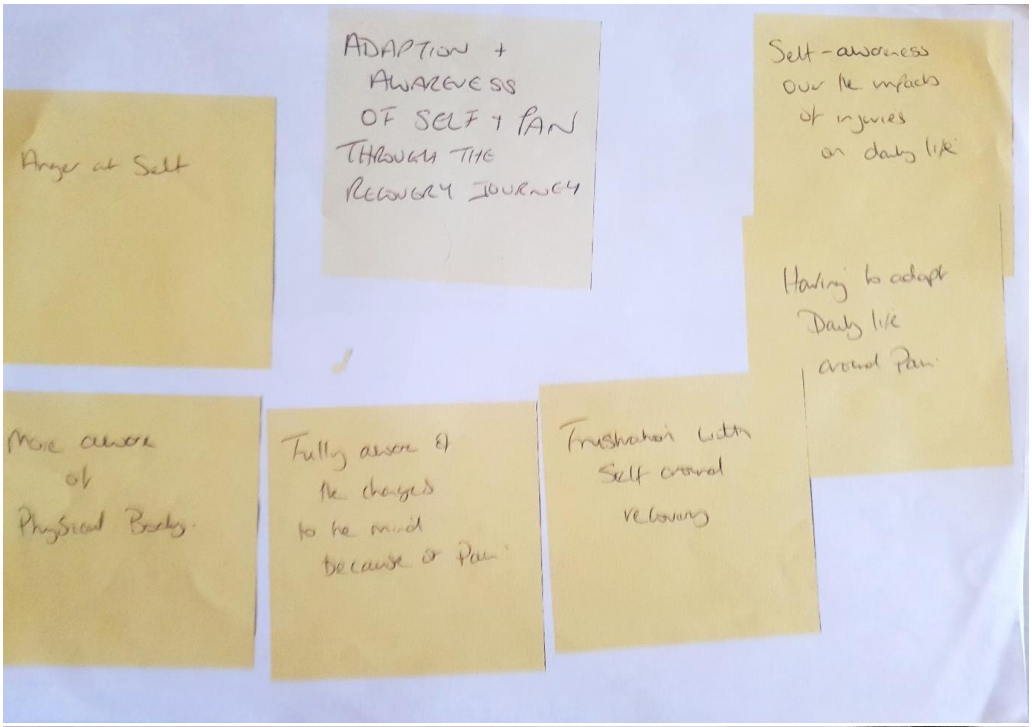

SELF ACCEPTANCE OF COMPLEX PAIN.
Experiencing Complex Pain.
loss of Time.
It will go away eventually
Randomness of daily Pain.

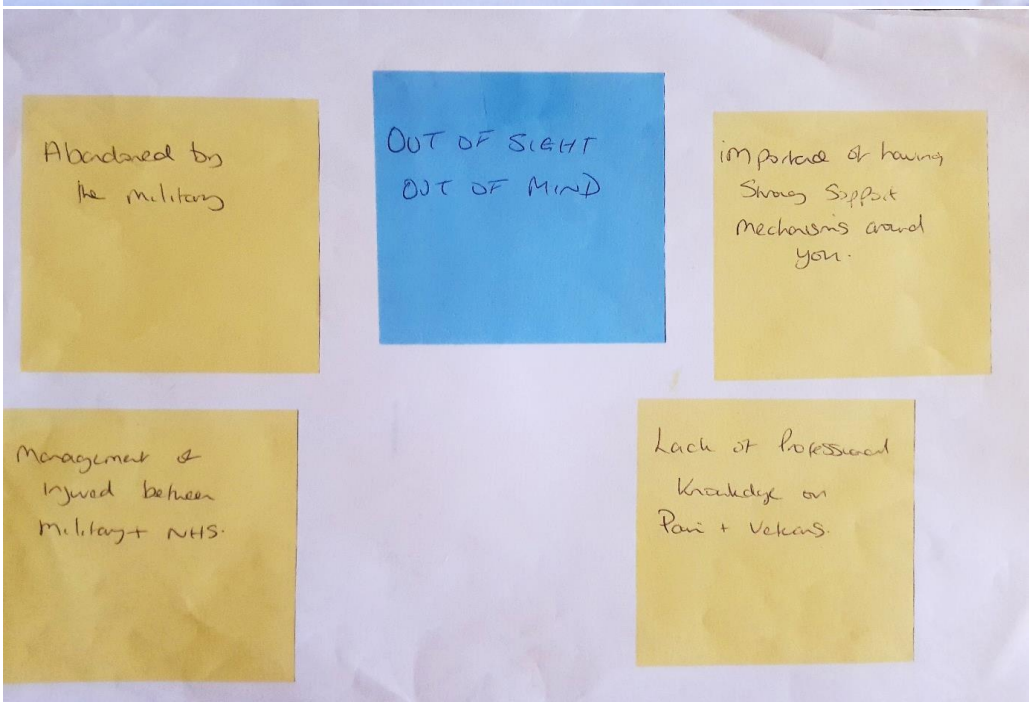

Self-Discipline.
Maintaining the Standards of the Military life
Having Sense of Purpose.
Disability is a mindset.
Importance of regular Physio
Use fitness and Sport to Cope with Pain.
Taking responsibility for your own life + Pain
RUSTY OLD MOTOR CYCLE: MAINTAINING THE BEST VERSION OF YOURSELF
Importance of Sleep

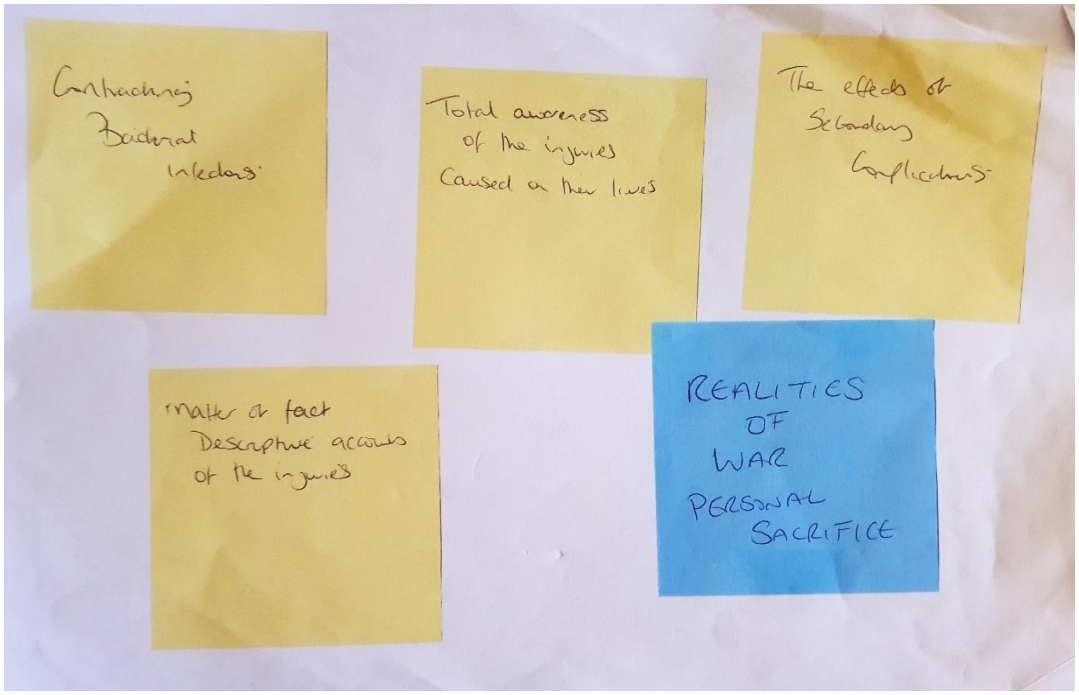

Pain is Personal.
Fully aware of Self of daily Pain.
Military mindset helped with Coping
PERSONAL MANAGEMENT OF DAILY PAIN
Sarcasm or black humour helped with recovery
Understanding own Triggers around Pain
Had to learn Personal Coping Mechanisms to Control the Pain


Impact on masculinity / Femininity
Isolation caused by Pain.
Self Protection Created Pain
PERSONAL IMPLICATIONS OF PAIN ON DAILY LIFE
Plays down the level of Pain - Sense of Protection.
Pain effects Social life.
Affects Personal Relationships

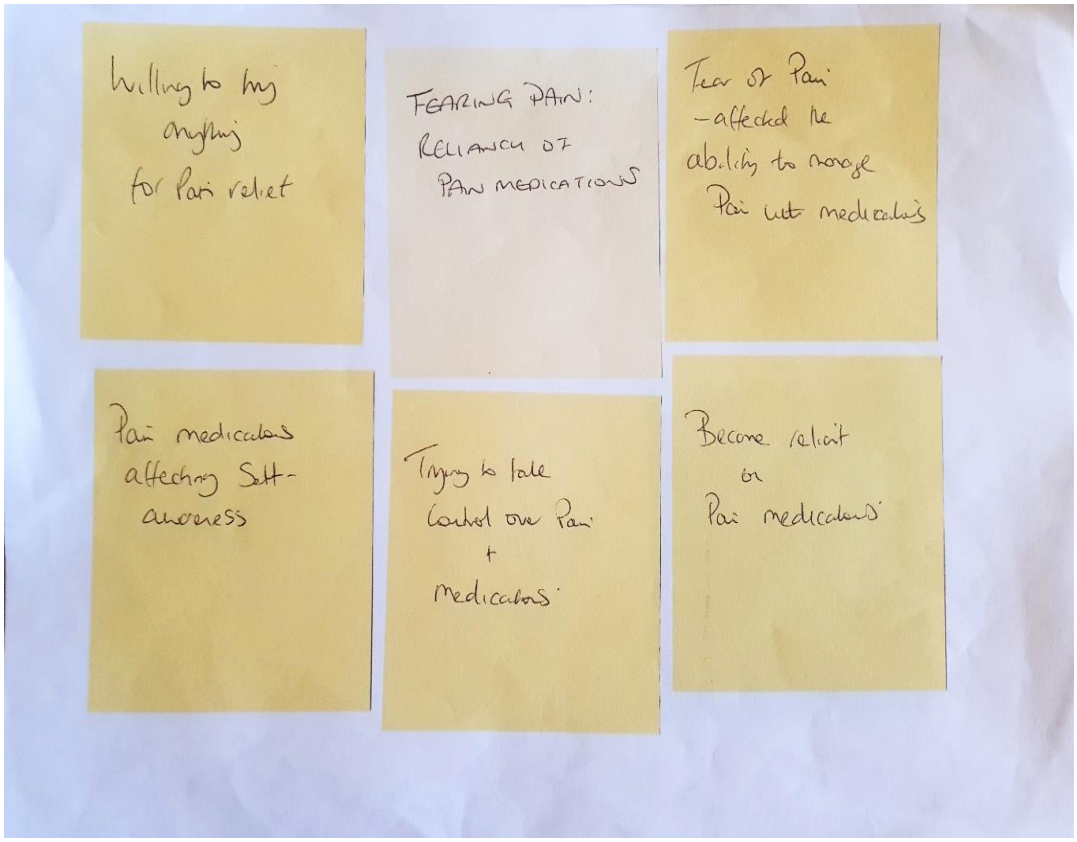

LIFE INTO ME AGAIN: BEING ALIVE
Thankful / grateful to Colleagues that Saved their lives or helped through Recovery

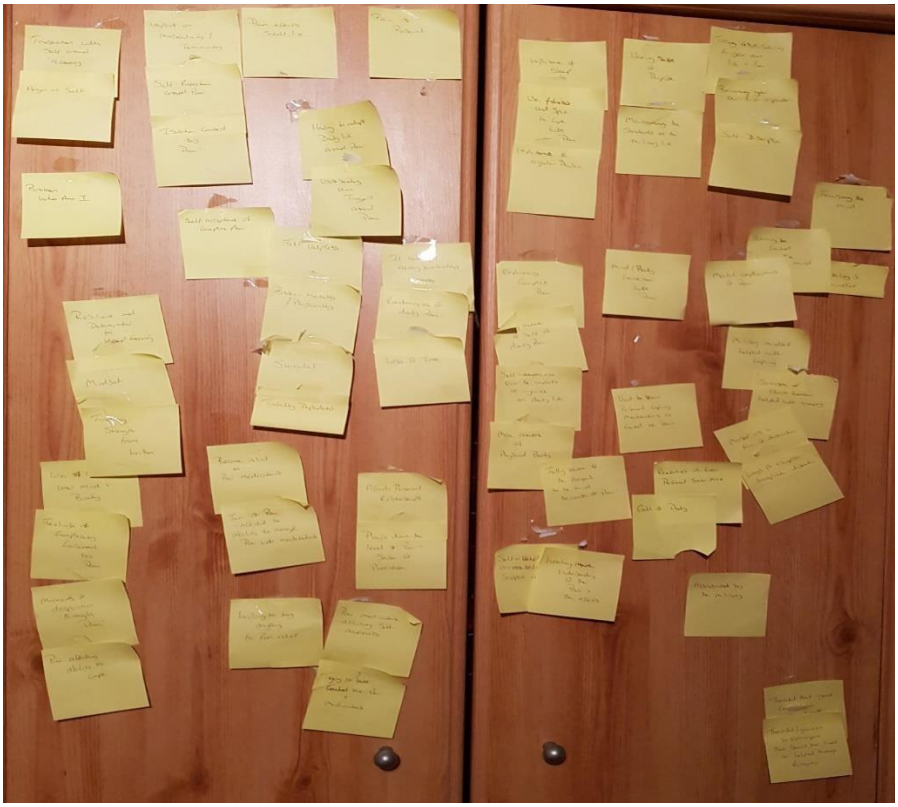

ADAPTION + AWARENESS OF SELF + PAIN THROUGH THE RECOVERY JOURNEY
Anger at Self
Self-awareness over the impacts of injuries on daily life
Having to adapt Daily life around Pain
More aware of Physical Body.
Fully aware of the changes to be made because of Pain
Frustration with Self around recovery


Abandoned by the military
OUT OF SIGHT OUT OF MIND
importance of having Strong Support Mechanisms around you.
Management of Injured between Military + NHS.
Lack of Professional Knowledge on Pain + Veterans.



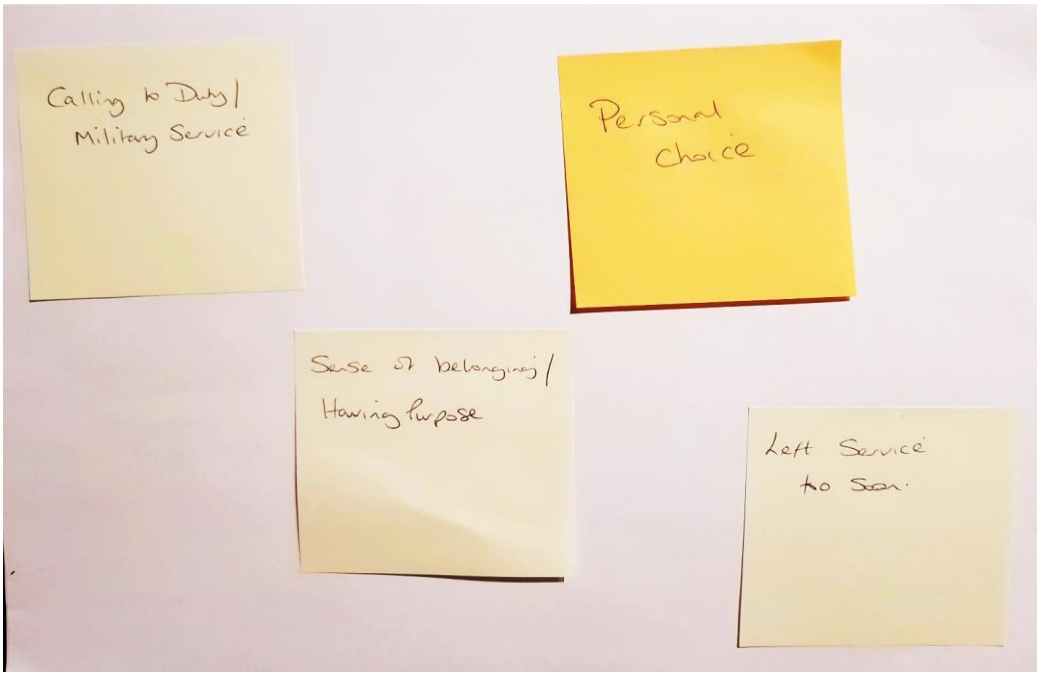
Some of the themes from the step 7 were developed further

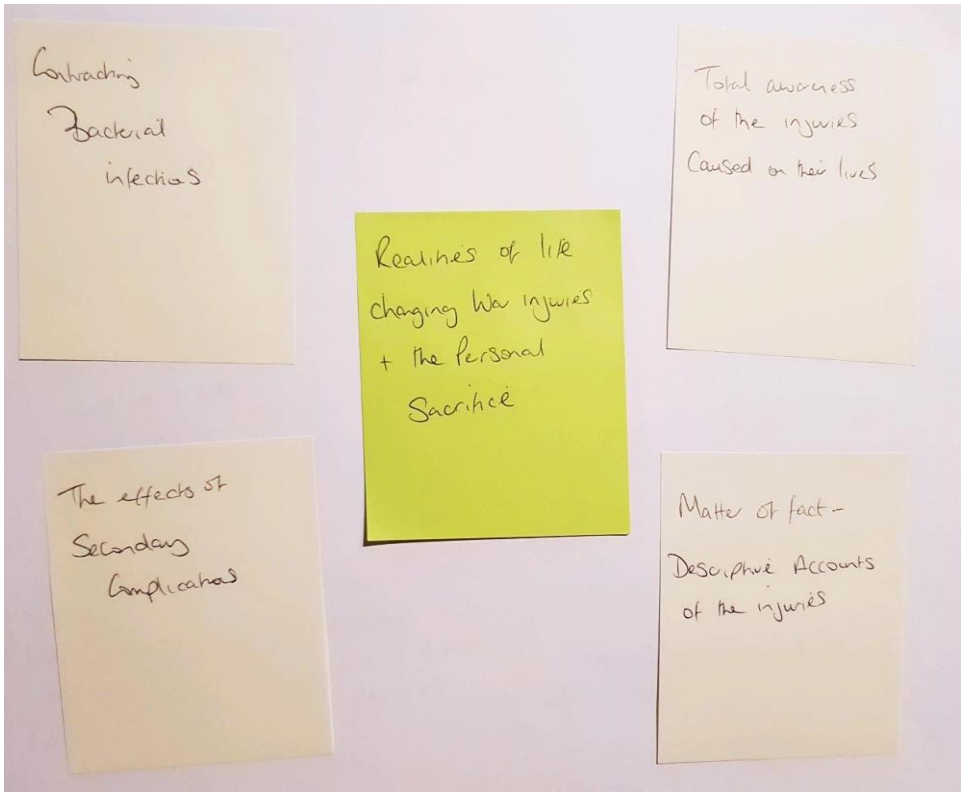


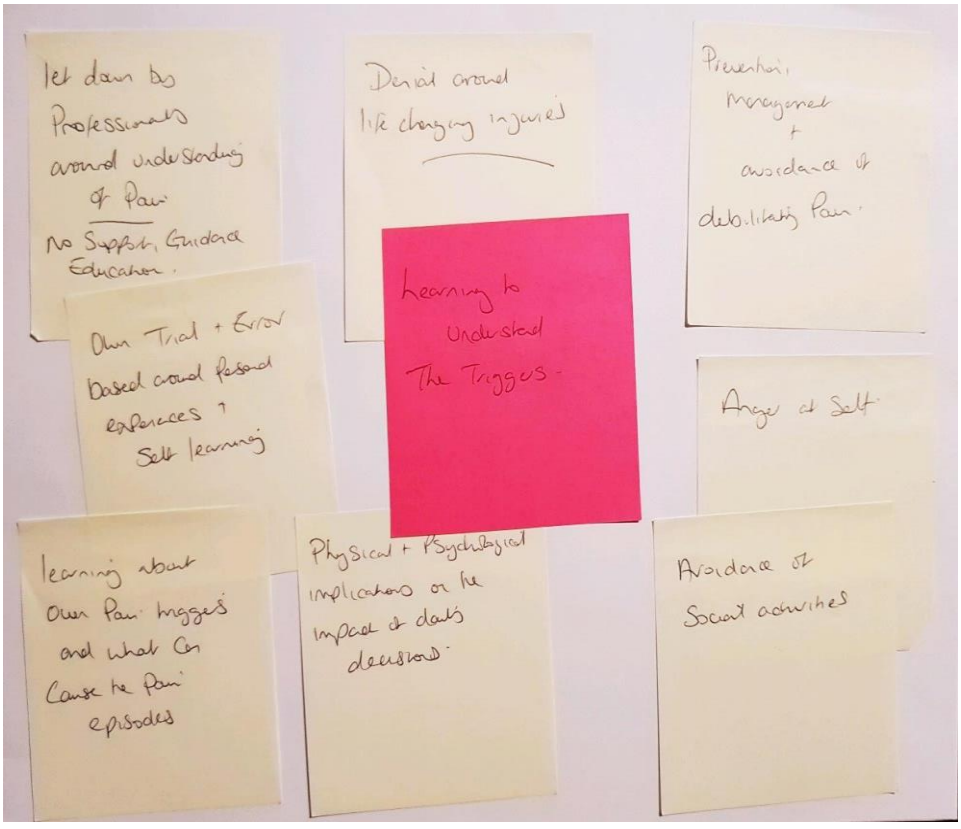


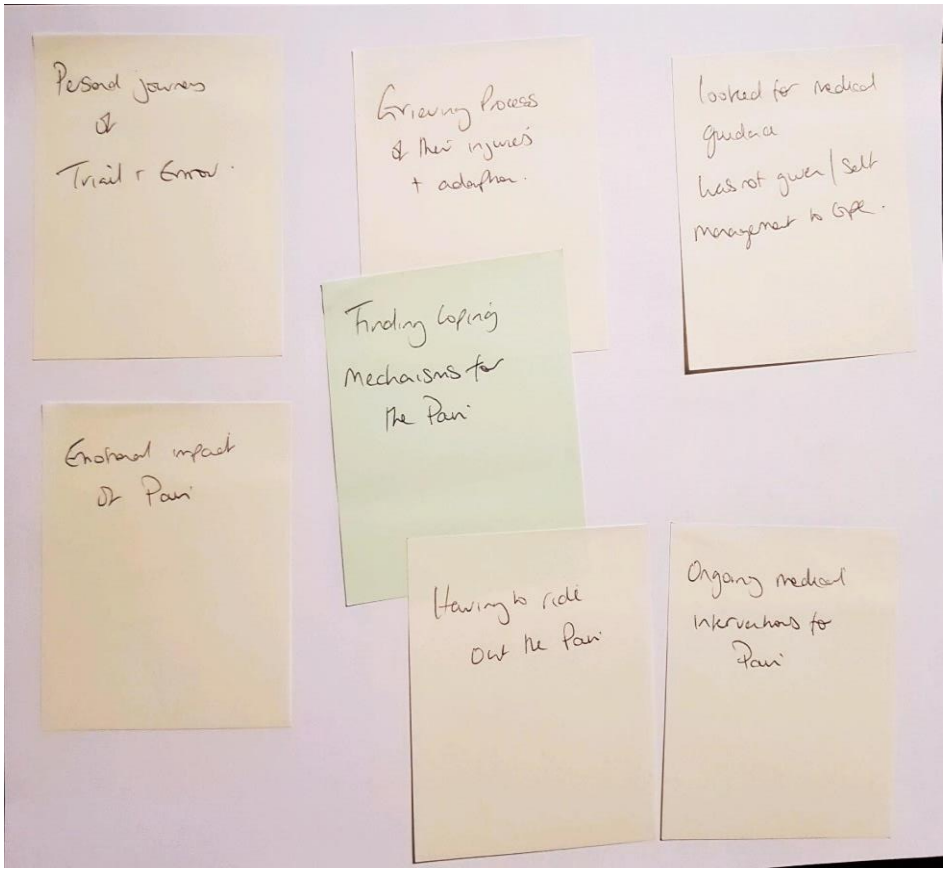
Back to the drawing board: Developing the amalgamation of common themes. Further engagement with the themes looking at common links/ relationships, similarities

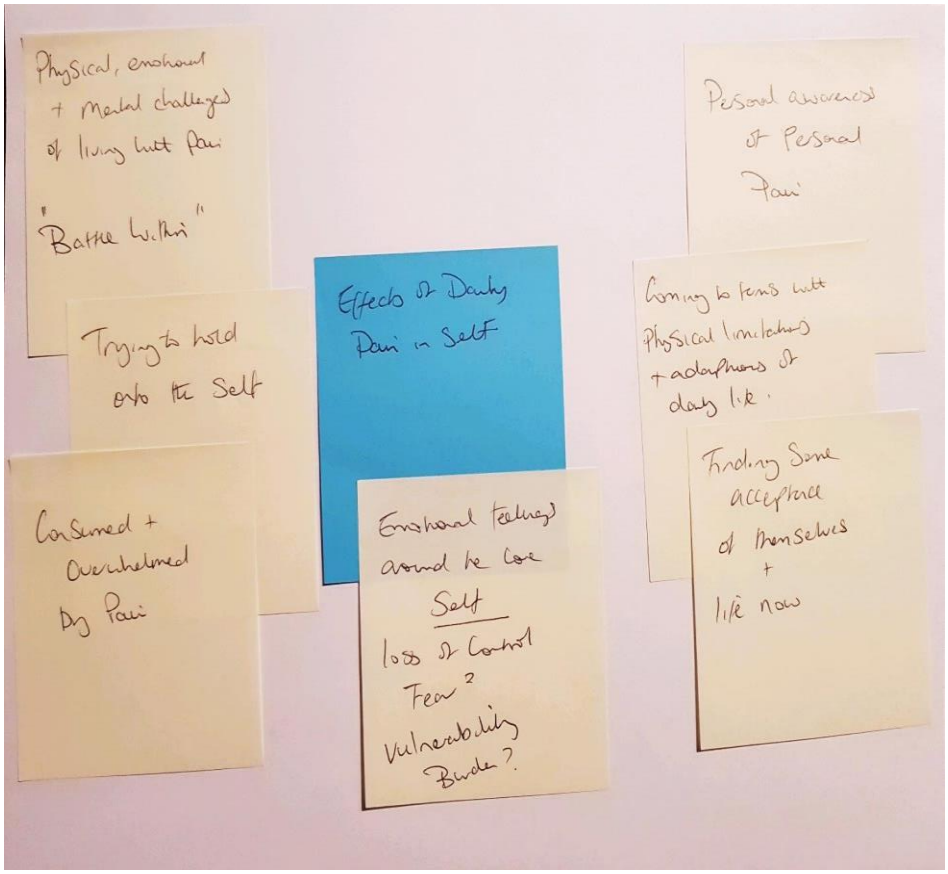
Further development of themes

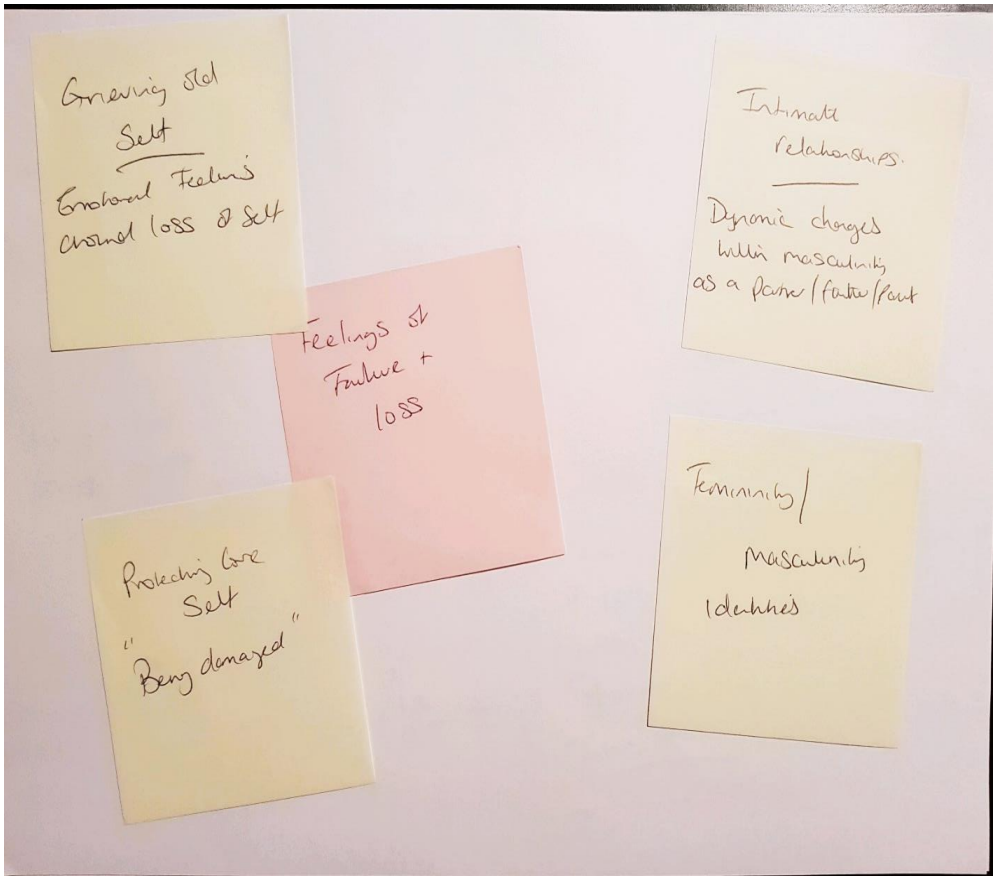


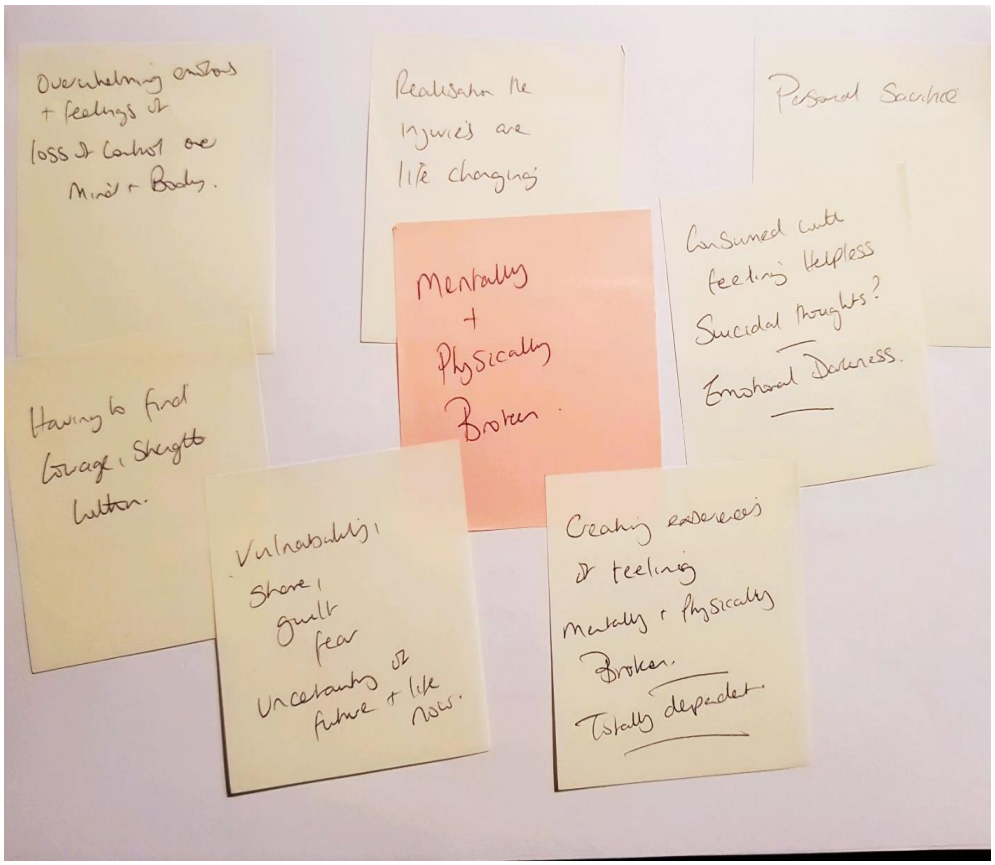

Contracting
Bacterial
infections
Total awareness
of the injuries
Caused on their lives
Realities of life
changing War injuries
+ The Personal
Sacrifice
The effects of
Secondary
Complications
Matter of fact -
Descriptive Accounts
of the injuries

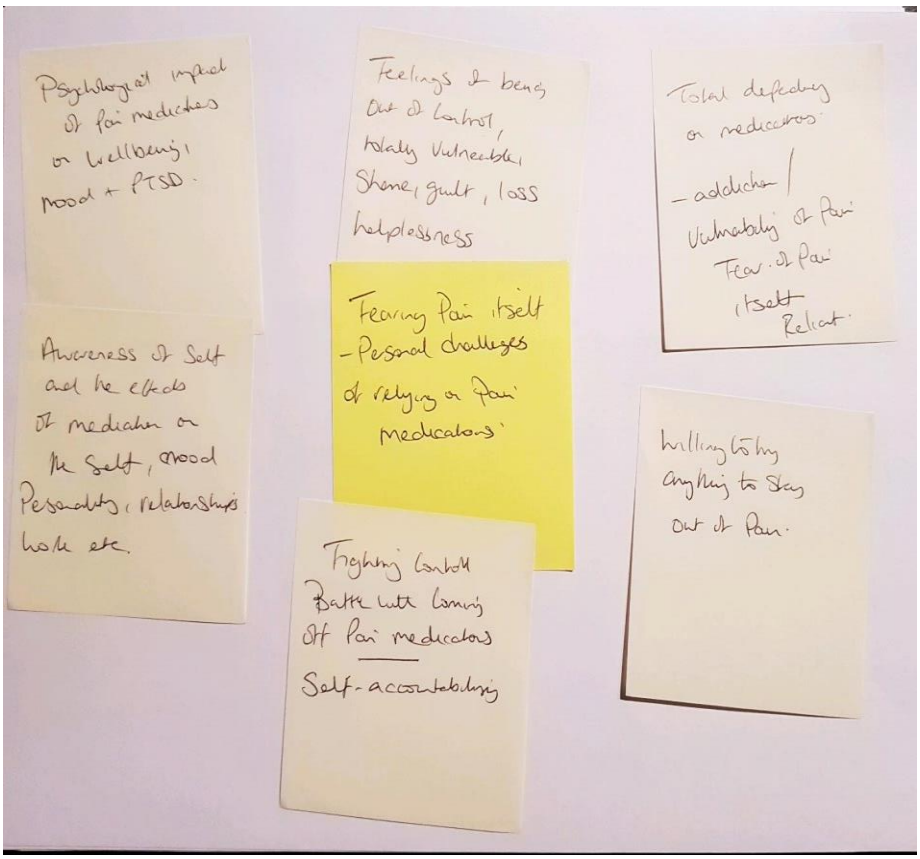

let down by
Professionals
around understanding
of Pain
No Support, Guidance
Education.
Denial around
life changing injuries
Prevention,
Management
+
avoidance of
debilitating Pain.
Learning to
Understand
The Triggers.
Own Trial + Error
Based around Personal
experiences +
Self learning
Anger at Self.
learning about
Own Pain triggers
and what Can
Cause the Pain
episodes
Physical + Psychological
implications on the
impact of daily
decisions.
Avoidance of
Social activities

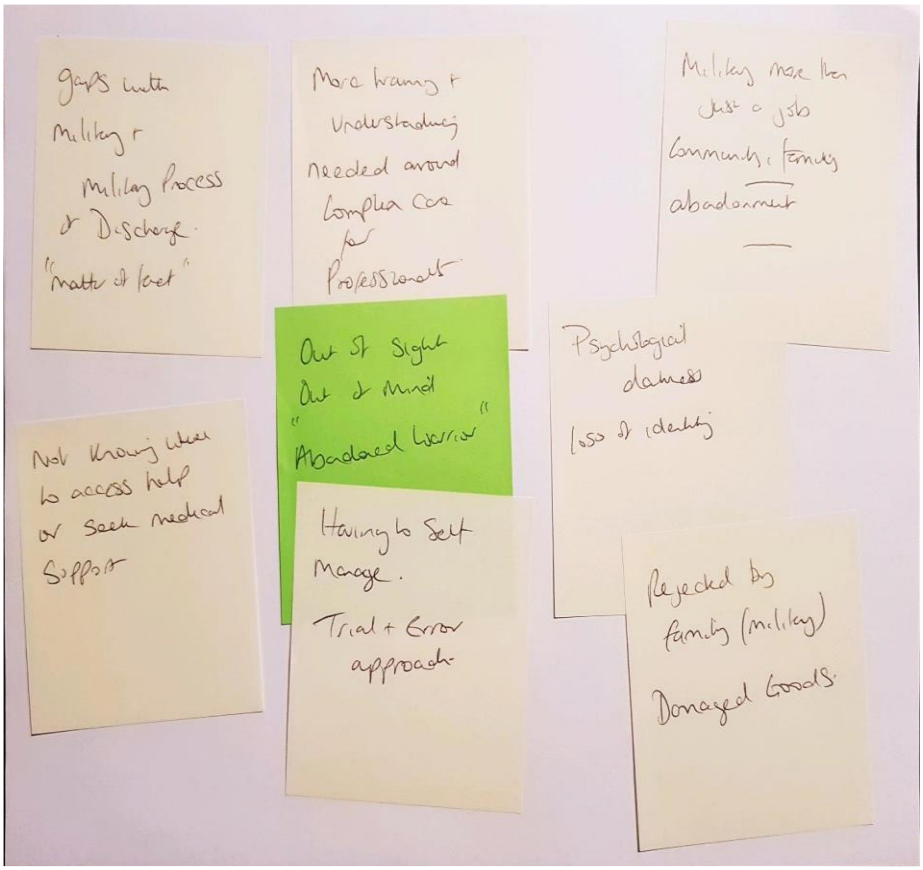

Personal journey
of
Trial + Error.
Grieving Process
& their injuries
+ adaption.
looked for medical
guidance
has not given / Self
management by GPs.
Finding Coping
Mechanisms for
the Pain
Emotional impact
of Pain
Having to ride
out the Pain
Ongoing medical
interventions for
Pain

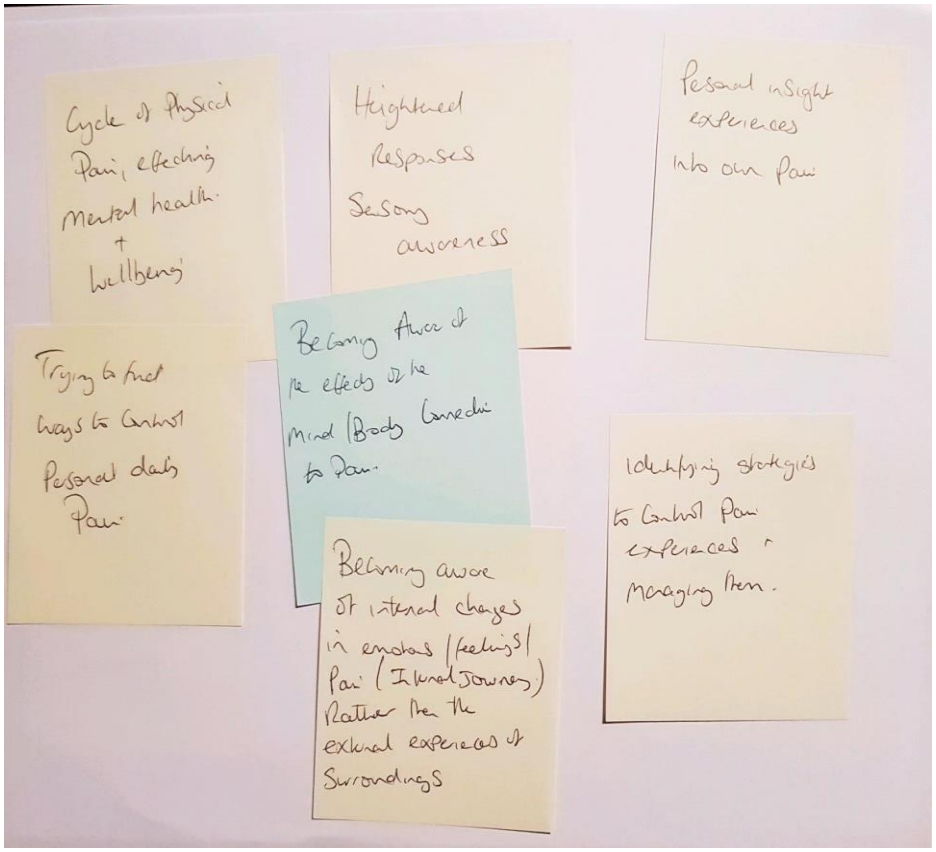

Physical, emotional
+ Mental challenges
of living with Pain
"Battle within"
Personal awareness
of Personal
Pain
Trying to hold
onto the Self
Effects of Daily
Pain in Self
Coming to terms with
Physical limitations
+ adaptions of
daily life.
Consumed +
Overwhelmed
by Pain
Emotional feelings
around the loss
Self
loss of Control
Fear?
Vulnerability
Burden?
Finding Some
acceptance
of themselves
+
life now

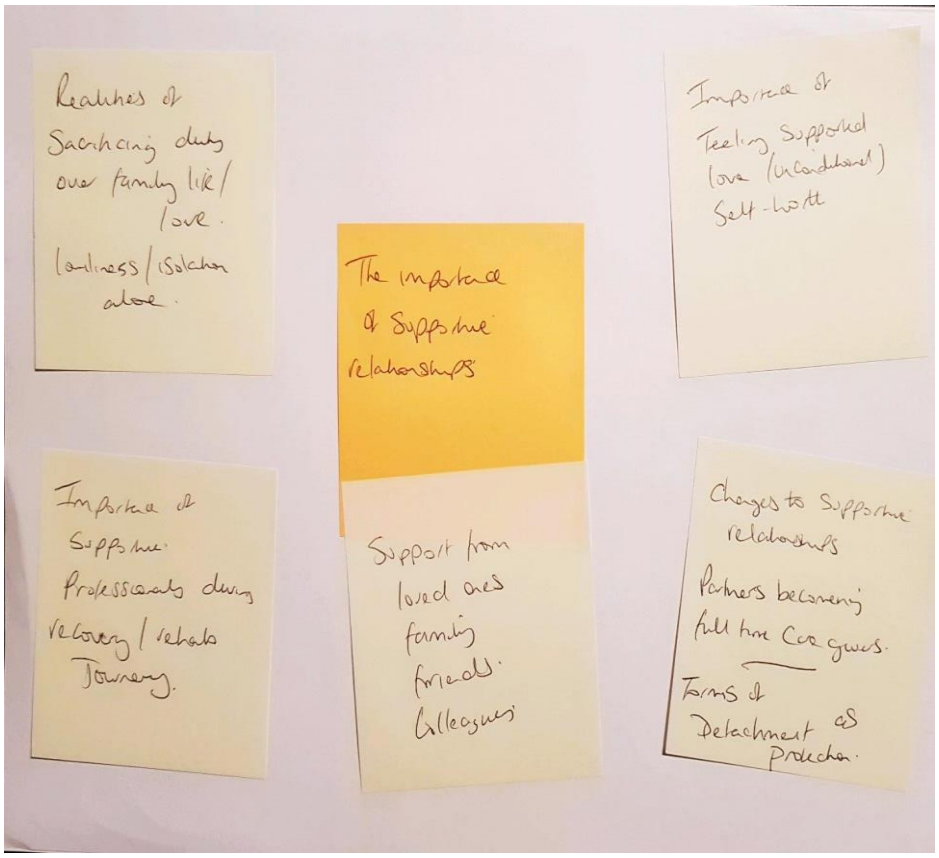

Grieving lost Self
Emotional Feelings
Chronic loss of Self
Intimate relationships.
Dynamic changes within masculinity as a Parent / Partner / Part
Feelings of Failure + loss
Protecting core Self
"Being damaged"
Femininity / Masculinity Identities

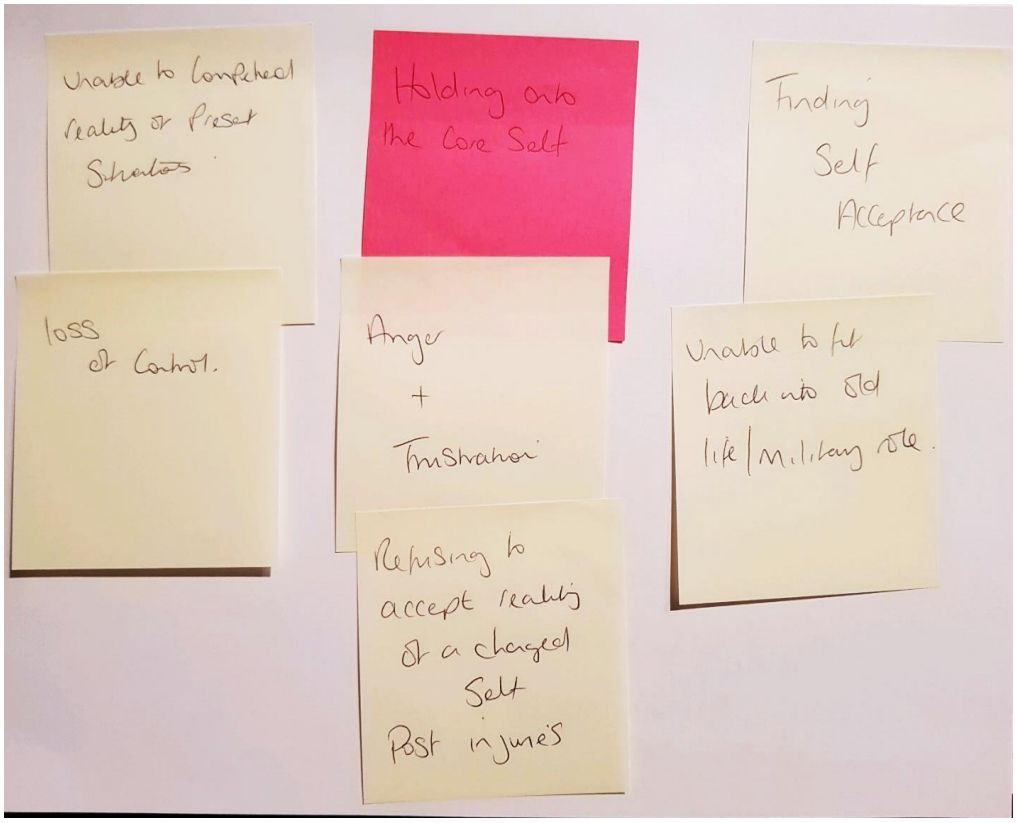

Overwhelming emotions + feelings of loss of control over Mind + Body.
Realisation the injuries are life changing
Personal Sacrifice
Mentally + Physically Broken.
Consumed with feeling Helpless
Suicidal thoughts?
Emotional Distress.
Having to find Courage, Strength button.
Vulnerability, Shame, Guilt, fear
Uncertainty of future + life roles.
Creating awareness of feeling Mentally + Physically Broken.
Totally dependent.

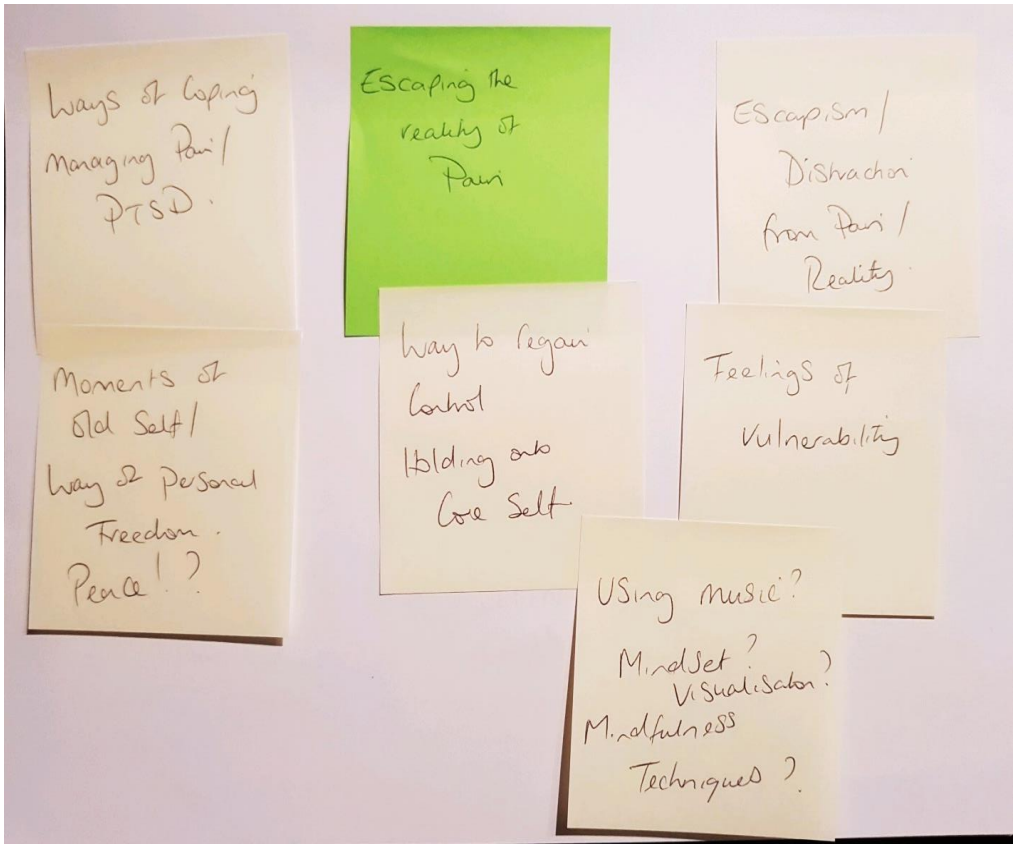

Psychological impact of Pain medication on Wellbeing, mood + PTSD.
Feelings of being Out of Control, totally Vulnerable, Shame, guilt, loss helplessness
Total defeating on medications
- addiction
Vulnerability of Pain
Fear of Pain itself
Relief.
Awareness of Self and the effects of medication on the Self, mood Personality, relationships work etc.
Fearing Pain itself - Personal challenges of relying on Pain medications.
Willingness to do anything to stay out of Pain.
Fighting Control Battle with coming off Pain medications
Self-accountability

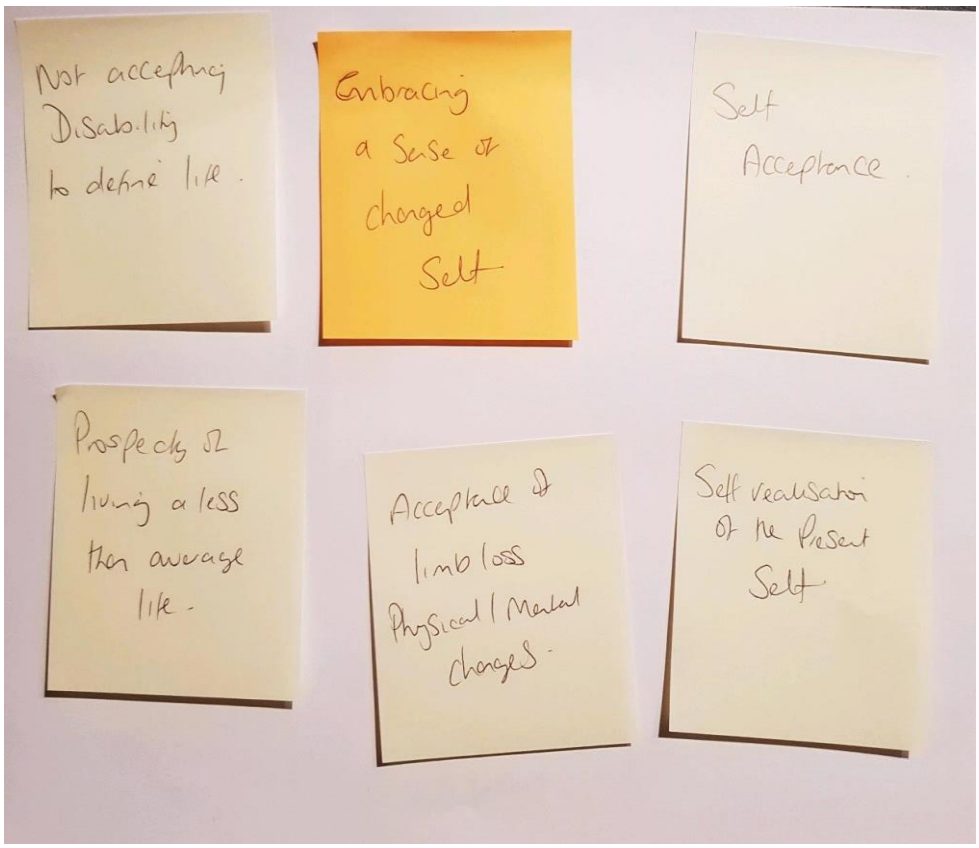

gaps with Military
Military Process & Discharge.
"matter of fact"
More training + Understanding needed around Complex Care for Professionals
Military more than just a job
Community, Family
abandonment
Out of Sight Out of Mind
"Abandoned Warrior"
Psychological distress
loss of identity
Not knowing where to access help or seek medical support
Having to Self Manage.
Trial + Error approach
Rejected by family (military)
Damaged Goods.

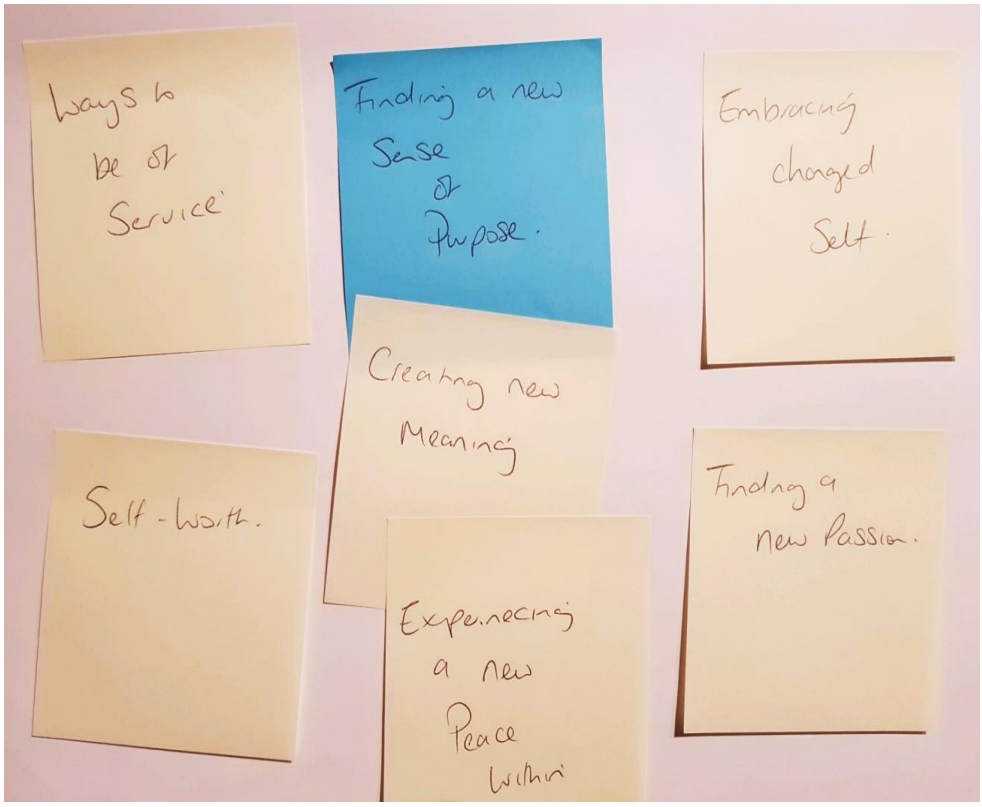

Cycle of Physical Pain, effecting mental health + wellbeing
Heightened Responses
Sensory awareness
Personal insight experiences into our Pain
Becoming Aware of the effects of the Mind/Body Connection to Pain.
Trying to find ways to Control Personal daily Pain.
Identifying strategies to Control Pain experiences + managing them.
Becoming aware of internal changes in emotions/feelings/Pain (Internal Journey) Rather than the external experiences of Surroundings

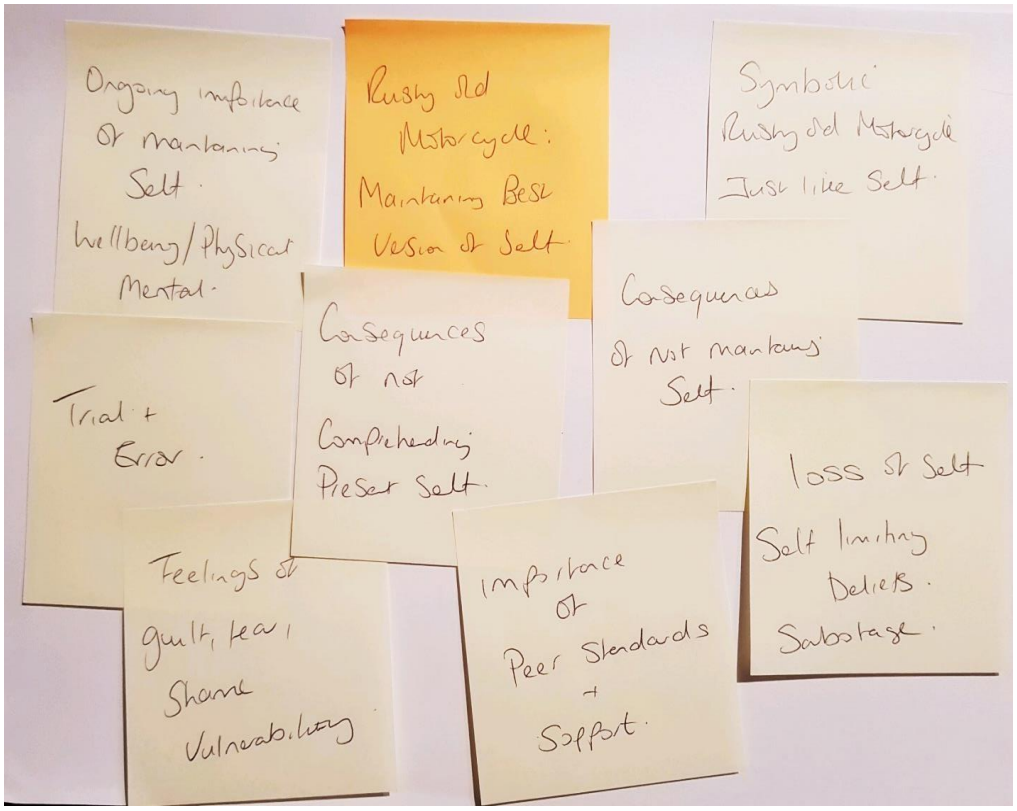

Realities of Sacrificing daily over family life/love.
Loneliness/isolation alone.
Importance of Feeling Supported Love (unconditional) Self-worth
The importance of Supportive relationships
Importance of Supportive Professionals during recovery/rehab Journey.
Support from loved ones family friends. Colleagues
Changes to Supportive relationships
Partners becoming full time Caregivers.
Forms of Detachment as protection.

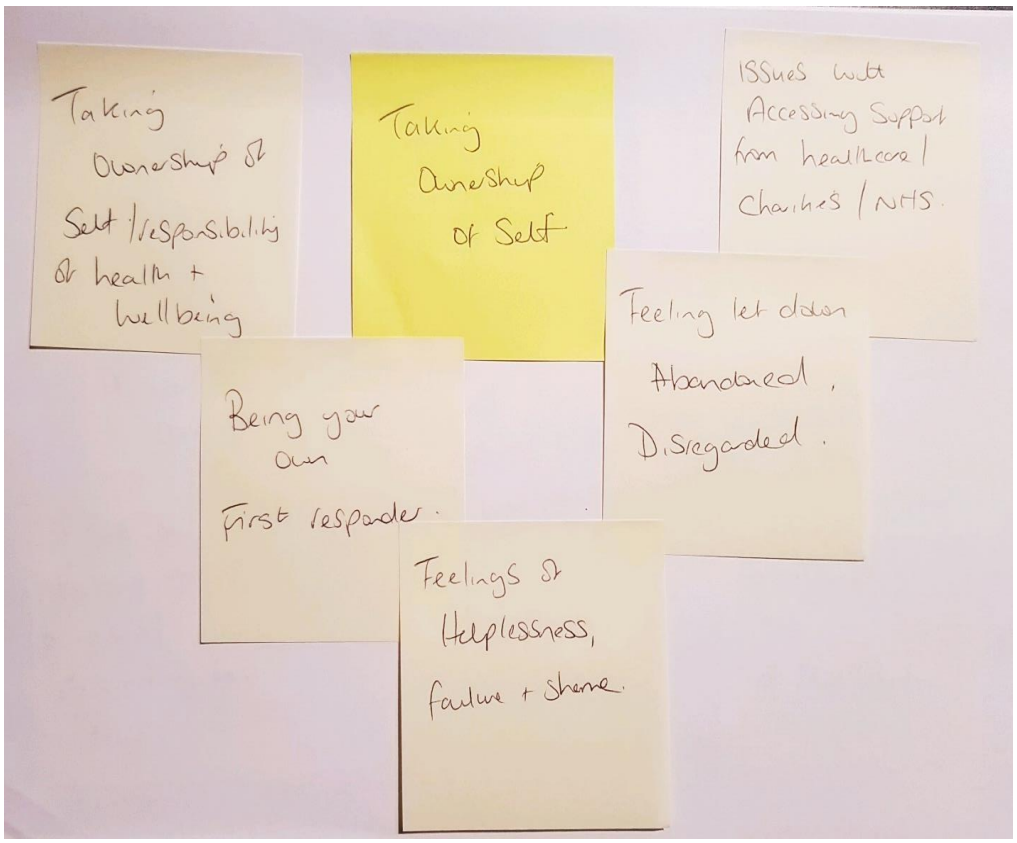

Unable to Comprehend reality of Present Situations
Holding onto the Core Self
Finding Self Acceptance
loss of Control.
Anger + Frustration
Unable to fit back into Old life / Military role.
Refusing to accept reality of a changed Self Post injuries

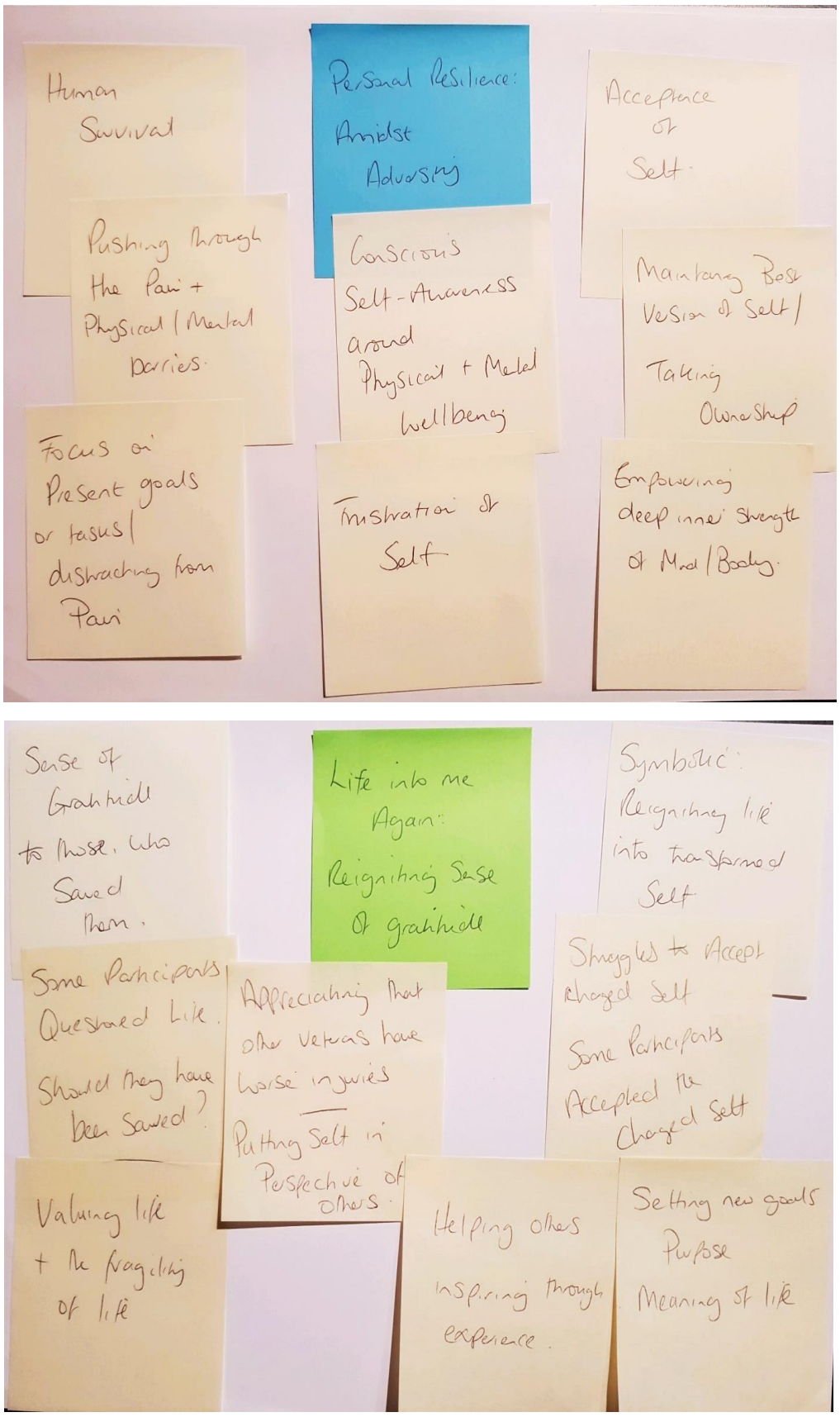

Ways of Coping Managing Pain / PTSD.
Escaping the reality of Pain
Escapism / Distraction from Pain / Reality
Moments of Old Self / Way of Personal Freedom. Peace!?
Way to regain Control Holding onto Core Self.
Feelings of Vulnerability
USing music? MindSet? Visualisation? Mindfulness Techniques?


Not accepting Disability to define life.
Embracing a Sense of changed Self
Self Acceptance.
Prospects of living a less than average life.
Acceptance of limb loss Physical / Mental changes.
Self realisation of the Present Self.


Ways to be of Service
Finding a new Sense of Purpose.
Embracing changed Self.
Creating new Meaning
Self-Worth.
Finding a new Passion.
Experiencing a new Peace


Ongoing importance of maintaining Self. Wellbeing/Physical Mental.
Rusty Old Motorcycle: Maintaining Best Version of Self.
Symbolic Rusty Old Motorcycle Just like Self.
Trial + Error.
Consequences of not Comprehending Preset Self.
Consequences of not maintaining Self.
Loss of Self
Self limiting Beliefs. Sabotage.
Feelings of guilt, fear, Shame Vulnerability.
Importance of Peer Standards + Support.


Taking Ownership of Self/Responsibility of health + wellbeing
Taking Ownership of Self.
Issues with Accessing Support from healthcare/ charities/NHS.
Being your own first responder.
Feeling let down Abandoned, Disregarded.
Feelings of Helplessness, failure + shame.



Work in progress: The super ordinates and their themes. Amalgamation of themes and re named.

Appendix 4- Further Analysis

5 superordinate themes and 21 sub themes

A Phenomenological Study of the Chronic Pain Experiences of 21st Century Combat Veterans Injured in Conflict.

Subordinate	Themes
CALL OF DUTY	• Realities of War Injuries • Personal Sacrifice • Personal Choice
Vulnerable and Wounded: WHO AM I?	• Left Service too soon -Feelings of Failure and Loss • Mentally and Physically Broken • Out of Sight, Out of Mind -The abandoned Warrior • Fearing Pain itself - Personal Challenges of relying on pain medications • Becoming Aware of the effects of the mind/body connection to pain Importance of strong support mechanisms you
PAIN IS PERSONAL: Living with Daily Pain	• Learning to Understand the triggers • Finding coping mechanisms for the pain • Effects of Daily Pain in Self • Impact of Pain on Social Relationships
Healing the Warrior Within: -The Journey of Transformation and Self - Acceptance	• Using forms of distraction or escapism in controlling the mind/physical pain • Holding onto the core self and finding self- acceptance • Willingness to embrace adaption • Finding a new sense of purpose
I AM	• Rusty of motorcycle -maintaining the best version of yourself • Taking Ownership of Self -Becoming your own responder • Mental Resilience: Maintaining a Positive mental wellbeing • Life into me Again: Being Thankful

Version 1: superordinate and sub themes sent to supervisor for feedback.

Version 1: Feedback and further critical / engagement with the themes. Further development of the naming of the sub-themes using titles that are more IPA.

A Phenomenological Study of the Chronic Pain Experiences of 21st Century Combat Veterans Injured in Conflict.

Subordinate	Themes
CALL OF DUTY	• Realities of War Injuries • Personal Sacrifice • Personal Choice
Vulnerable and Wounded: WHO AM I?	• Feelings of Failure and Loss • Mentally and Physically Broken • Out of Sight, Out of Mind -The abandoned Warrior • Fearing Pain itself - dependency on pain medications • Self-Awareness of the mind/ body experience of pain • Importance of supportive relationships
PAIN IS PERSONAL: Living with Daily Pain	• Understanding the triggers of pain • Searching for strategies to cope • Effects of Daily Pain on Self • Impact of Pain on Social Connections
Healing the Warrior Within: -The Journey of Transformation and Self - Acceptance	• Escaping the reality of pain • Holding onto the core sense of self • Embracing a sense of changed self • Finding a new sense of purpose
I AM – Who I am now	• The Rusty Old Motorcycle: Maintaining the best version of self • Taking Ownership of Self • Personal Resilience: Fighting back with resistance • Life into me Again: Reigniting a sense of gratitude.

Version 2: The development of a more psychological themed titles

- Further reflective journals kept during this stage

Version 3: Superordinate themes and subthemes developed through the emerging analysis process, using the hermeneutic and bracketing process (p.129-130)

Appendix 5 : Ethics Approval 1 & 2

University of South Wales
Prifysgol De Cymru

Professor Julie E Lydon, Vice-Chancellor
Yr Athro Julie E Lydon, Is-Ganghellor

10 October 2013

Bethan Hughes
C/o Faculty of Health, Sport and Science,
University of South Wales

Dear Mrs Hughes,

Re: Combat Veterans Living with Chronic Pain (1350-RCBC-CS-E0)

I am writing to confirm that on the 10 October 2013, the Faculty of Health, Sport, and Science Ethics Sub Group approved your submission for ethical approval. The committee notes that this application has sought approval for Pre Phase 1 interviews, only.

If you have any queries about the group's decision, please do not hesitate to contact me.

Please be aware that if you decide to deviate from your approved protocol the opinion of the Ethics Champion is required before proceeding.

Yours sincerely,

Dr. Ian Beech
Faculty Ethics Champion

niversity of South Wales, Pontypridd, Wales, CF37 1DL UK
l 08455 76 01 01 Fax 01443 480 558

www.southwales.ac.uk
www.decymru.ac.uk

Prifysgol De Cymru, Pontypridd, Cymru, CF37 1DL DU
Ffôn 08455 76 01 01 Ffacs 01443 480 558

University of South Wales
Prifysgol De Cymru

Dear Bethan,

Re: A Phenomenological Study of the Chronic Pain Experiences of 21st Century Combat Veterans Injured in Conflict

I am pleased to report that on the **25/05/2017** your revised application for ethical approval was approved via Chair's action.

Please note this approval is valid for 2 years from the date of issue. Upon the expiration of this approval, you may apply for an extension of ethical approval.

I've attached the documents that are approved. If you intend on deviating from the approved protocol, research team, or documentation you will need to seek approval for any changes.

Thank you & BW,

Jonathan Sinfield,
Research Governance Officer,
Research and Innovation Services (RISe),
Research and Business Development Office,
University of South Wales,
Tel: (01443) 484518.

Appendix 6: Original Covering Letter for Recruitment & Consent Form

Version 1: 20/06/2013

Dear ……..,

Re: Combat Veterans Living with Chronic Pain

The Health Care Sciences Research Unit at the University of South Wales is conducting research into **combat veterans living with chronic pain** as part of the study 'The use of therapeutic harp music as a medium for supporting the management of chronic pain in 21st century combat veterans: A randomized trial'. We would like to invite you to take part in this study.

An information leaflet is enclosed which gives you more information about the research. We hope this will answer any questions you may have. If, however, you have any further queries please do not hesitate to contact either myself or Dr Gina Dolan (contact details are provided on the attached information sheet).

Taking part in the study is entirely voluntary and will not in any way effect your confidentiality. We believe this is an important issue that requires further investigation, and we hope that it will be of interest to you.

If you are willing to take part, please return the form in the envelope provided within one month (SAE envelope enclosed).

We look forward to hearing from you,

Yours sincerely,

Bethan Hughes

bethan.hughes@southwales.ac.uk

University of South Wales,
Faculty of Health, Sport & Science,
Room GT7203, Aneurin Bevan Building,
Glyntaff Campus, Pontypridd, CF37 1DL

Participant Identification Number:

CONSENT FORM

Title of Interview: Combat Veterans Living with Chronic Pain

University of South Wales
Prifysgol De Cymru

The Study: The use of therapeutic harp music as a medium for supporting the management of chronic pain in 21st century combat veterans: A randomized trial.

Name of Researcher: Bethan Hughes

Please Initial box

1. I confirm that I have read and understand the information sheet dated June 20th, 2013, for the above study. I have had the opportunity to ☐ consider the information, ask questions, and have had these answered satisfactorily
2. I understand and agree for the interview to be audio recorded. ☐
3. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason. ☐
4. I understand that any information given by me may be used in future reports, articles, or presentations by the research team. ☐
5. I understand that my name or identity; will not appear in any reports, articles, or presentations. ☐
6. I agree to take part in the above study. ☐

Name of Participant	Date	Signature
Researcher	Date	Signature

When completed, please return in the envelope provided.
Please Return the SAE to:
Bethan Hughes

University of South Wales, Faculty of Health, Sport & Science, Room GT7203, Aneurin Bevan Building, Glyntaff Campus, Pontypridd, CF37 1DL
bethan.hughes@southwales.ac.uk

Original Information Leaflet for the study / Recruitment

University of South Wales
Prifysgol De Cymru

PARTICIPANT INFORMATION SHEET

The use of therapeutic harp music as a medium for supporting the management of chronic pain in 21st century combat veterans: A randomized trial.

Title of Interview: Combat Veterans Living with Chronic Pain

You are being invited to take part in the preliminary phase of a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

What is the background to and purpose of the study?
The preliminary phase of the study sets out to determine the best way to provide information about living with and the management of chronic pain in combat veterans.

We would like to learn from you more about:

- Your experiences with pain and how it was treated
- Your coping mechanisms with the pain
- Your views and opinions on how chronic pain could be better managed for veterans.

The aim of the main study is to look at whether therapeutic harp music could be used as a tool for managing chronic pain.

Why have I been invited?
We are hoping to gain the views of a wide range of veterans who have suffered injuries in combat and live with chronic pain. There is very little research within the wellbeing and pain management of combat veterans. Therefore, we feel that more knowledge and understanding is needed to support veteran's health.

Do I have to take part?
It is up to you to decide whether to take part. Please take your time to think about the study. If you decide to support this first part of the study; you will be asked to sign a consent form to show that you have agreed to take part, but you are free to withdraw from the study at any time, without giving a reason.

What will happen to me if I take part?
If you are willing to take part, then we would ask that you complete and return the enclosed consent form in the envelope provided. There is no need to put a stamp on the envelope. These forms will be kept securely by the research team. We will contact you either by telephone or letter and arrange a mutually convenient time for a member of the research team to talk to you at a venue convenient to you. The interview will last about 30-60 minutes and will involve an informal interview with questions regarding living with chronic pain.

Expenses and payment.
This project provides no payment to participants, but we will reimburse any travel expenses.

What are the possible benefits of taking part?
We cannot promise the study will help you directly but the information we get from this study will help improve the research with veteran's health and wellbeing. If you require any advice about your pain, we will do our best to tell you where you may access further information and support.

What are the possible disadvantages of taking part?
We do not anticipate any disadvantage or inconvenience to you, apart from giving about an hour of your time to help with our research.

Will my taking part in this study be kept confidential?
Your participation and the information that you give will be strictly confidential and will be kept securely according to the rules of the Data Protection Act 1998. An audio recording will be made of the interview for transcription purposes. At this stage, the interview transcript will be anonymised, that is we will assign a numerical identifier to the interview and remove all names of people and places. We will keep a separate file with your name and address so that we can contact you to make arrangements for the interview. The information you provide will be

used for research purposes only and will not be passed to anyone outside the research team.

What will happen if I don't want to continue with the study?
If you agree to take part but then change your mind you are free to withdraw at any time you wish, without giving a reason. If you have already given some information you may choose to have it destroyed or, if you are happy for it to be used, we shall include it in our analysis. If there are any questions that you prefer not to answer in the interview, the researcher will move on to a different question.

What will happen to the results of the research study?
The research team will review the transcripts and will identify areas relevant to the research aims and objectives. These findings will be presented at conferences, in academic journals, and on websites of voluntary organisations supporting veteran's health. No individual participant will be identified in any of the reports or presentations. At the end of the study, we will give all participants a summary of the findings.

Who is organising and funding the research?
The study is being conducted by the University of South Wales. The research is funded by a grant from the Building Research Capacity for Nursing and Allied Health Professionals (RCBC). The study is part of a doctoral research project for Bethan Hughes.

Who has reviewed the study?
This study has been reviewed and approved by the University of South Wales Ethics Committee.

What if there is a problem?
If you have any concerns about any aspect of this study, you should ask to speak to the researchers who will do their best to answer your questions (contact details below). If you prefer to speak to someone who is not a member of the research team, or you are unhappy and wish to complain formally you may contact:

Ms Karen Roberts
University of South Wales
Glyntaff Campus
Pontypridd, CF37 1DL
Telephone: 01443 483158

How can I find out more?
We are happy to discuss any queries you may have. For further information please contact:

Bethan Hughes
Telephone: 01443 483050
Email: bethan.hughes@southwales.ac.uk

University of South Wales,
Faculty of Health, Sport & Science,
Room GT7203, Aneurin Bevan Building,
Glyntaff Campus, Pontypridd, CF37 1DL

Dr. Gina Dolan
Telephone: 01443 483815
Email: gina.dolan@southwales.ac.uk

Thank you for considering taking part in this study.

Appendix 7 – New Letter for change of study for participants,

New Letter for New participants

Version 5: 14/02/2016

Dear …….....,

Re: A Phenomenological Study of the Chronic Pain Experiences of 21st Century Combat Veterans Injured in Conflict.

The interviews that were completed by your -self with Bethan Hughes in person or by phone have now become the main focus of the study into living with chronic pain. The main reason for this letter is to make sure that you are still happy for the interviews that were given to be part of this study.

The Health Care Sciences Research Unit at the University of South Wales is looking at research into the "Phenomenological Study of the Chronic Pain Experiences of 21st Century Combat Veterans Injured in Conflict".

An information leaflet is enclosed which gives you more information about the research. We hope this will answer any questions you may have. If, however, you have any further queries please do not hesitate to contact either myself or Dr Gina Dolan (contact details are provided on the attached information sheet).

Taking part in the study is entirely voluntary and will not in any way effect your confidentiality. We believe this is an important issue that requires further investigation, and we hope that it will be of interest to you.

If you are still willing to take part, please return the form in the envelope provided within one month (SAE envelope enclosed) or a written email.

We look forward to hearing from you,

Yours sincerely,

Bethan Hughes
bethan.hughes@southwales.ac.uk

University of South Wales,
Faculty of Health, Sport & Science,
Room GT7203, Aneurin Bevan Building,
Glyntaff Campus, Pontypridd, CF37 1D
Version 5: 14/02/2016

Dear …….....,

Re: A Phenomenological Study of the Chronic Pain Experiences of 21 Century Combat Veterans Injured in Conflict.

The Health Care Sciences Research Unit at the University of South Wales is conducting research into **combat veterans living with chronic pain** part of the study A Phenomenological Study of the Chronic Pain Experiences of 21st Century Combat Veterans Injured in Conflict.

An information leaflet is enclosed which gives you more information about the research. We hope this will answer any questions you may have. If, however, you have any further queries please do not hesitate to contact either myself or Dr Gina Dolan (contact details are provided on the attached information sheet).

Taking part in the study is entirely voluntary and will not in any way effect your confidentiality. We believe this is an important issue that requires further investigation, and we hope that it will be of interest to you.

If you are willing to take part, please return the form in the envelope provided within one month (SAE envelope enclosed).

We look forward to hearing from you,

Yours sincerely,

Bethan Hughes
bethan.hughes@southwales.ac.uk

University of South Wales,
Faculty of Health, Sport & Science,
Room GT7203, Aneurin Bevan Building,
Glyntaff Campus, Pontypridd, CF37 1D

Appendix 7b – Information sheet

Version 5 : 14/02/2016

University of South Wales
Prifysgol De Cymru

PARTICIPANT INFORMATION SHEET

A Phenomenological Study of the Chronic Pain Experiences of 21st Century Combat Veterans Injured in Conflict

Title of Interview: Combat Veterans Living with Chronic Pain

You are being invited to take part in this research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

What is the background to and purpose of the study?

The aim of the main study is to look at- The lived experiences of 21st Century Combat Veterans with chronic pain secondary to combat injury.

We would like to learn from you more about:

- Your experiences with pain and how it was treated
- Your coping mechanisms with the pain
- Your views and opinions on how chronic pain could be better managed for veterans.

Why have I been invited?

We are hoping to gain the views of a wide range of veterans who have suffered injuries in combat and live with chronic pain. There is very little research within the wellbeing and pain management of combat veterans. Therefore, we feel that more knowledge and understanding is needed to support veteran's health.

Do I have to take part?

It is up to you to decide whether to take part. Please take your time to think about the study. If you decide to support this first part of the study; you will be asked to sign a consent form to show that you have agreed to take part, but you are free to withdraw from the study at any time, without giving a reason.

What will happen to me if I take part?

If you are willing to take part, then we would ask that you complete and return the enclosed consent form in the envelope provided. There is no need to put a stamp on the envelope. These forms will be kept securely by the research team. We will contact you either by telephone or letter and arrange a mutually convenient time for a member of the research team to talk to you at a venue convenient to you. The interview will last about 30-60 minutes and will involve an informal interview with questions regarding living with chronic pain.

Expenses and payment.

This project provides no payment to participants, but we will reimburse any travel expenses.

What are the possible benefits of taking part?

We cannot promise the study will help you directly but the information we get from this study will help improve the research with veteran's health and wellbeing. If you require any advice about your pain, we will do our best to tell you where you may access further information and support.

What are the possible disadvantages of taking part?

We do not anticipate any disadvantage or inconvenience to you, apart from giving about an hour of your time to help with our research.

Will my taking part in this study be kept confidential?

Your participation and the information that you give will be strictly confidential and will be kept securely according to the rules of the Data Protection Act 1998. An audio recording will be made of the interview for transcription purposes. At this stage, the interview transcript will be anonymised, that is we will assign a numerical identifier to the interview and remove all names of people and places. We will keep a separate file with your name and address so that we can contact you to make arrangements for the interview. The information you provide will be

used for research purposes only and will not be passed to anyone outside the research team.

What will happen if I do not want to continue with the study?
If you agree to take part but then change your mind you are free to withdraw at any time you wish, without giving a reason. If you have already given some information you may choose to have it destroyed or, if you are happy for it to be used, we shall include it in our analysis. If there are any questions that you prefer not to answer in the interview, the researcher will move on to a different question.

What will happen to the results of the research study?
The research team will review the transcripts and will identify areas relevant to the research aims and objectives. These findings will be presented at conferences, in academic journals, and on websites of voluntary organisations supporting veteran's health. No individual participant will be identified in any of the reports or presentations. At the end of the study, we will give all participants a summary of the findings.

Who is organising and funding the research?
The study is being conducted by the University of South Wales. The research is funded by a grant from the Building Research Capacity for Nursing and Allied Health Professionals (RCBC). The study is part of a doctoral research project for Bethan Hughes.

Who has reviewed the study?
This study has been reviewed and approved by the University of South Wales Ethics Committee.

What if there is a problem?
If you have any concerns about any aspect of this study, you should ask to speak to the researchers who will do their best to answer your questions (contact details below). If you prefer to speak to someone who is not a member of the research team, or you are unhappy and wish to complain formally you may contact:

Ms Llinos Spargo
Graduate Research Administrator
Room AO21
University of South Wales
Trefforest Campus

Pontypridd, CF37 1DL
Telephone: 01443 483568
Llinos.spargo@southwales.ac.uk

How can I find out more?

We are happy to discuss any queries you may have. For further information please contact:

Bethan Hughes
Telephone: 01443 483050

Email: bethan.hughes@southwales.ac.uk University of South Wales,

Faculty of Health Sciences & Education

Room GT7203, Aneurin Bevan Building,

Glyntaff Campus, Pontypridd, CF37 1DL

Dr. Gina Dolan

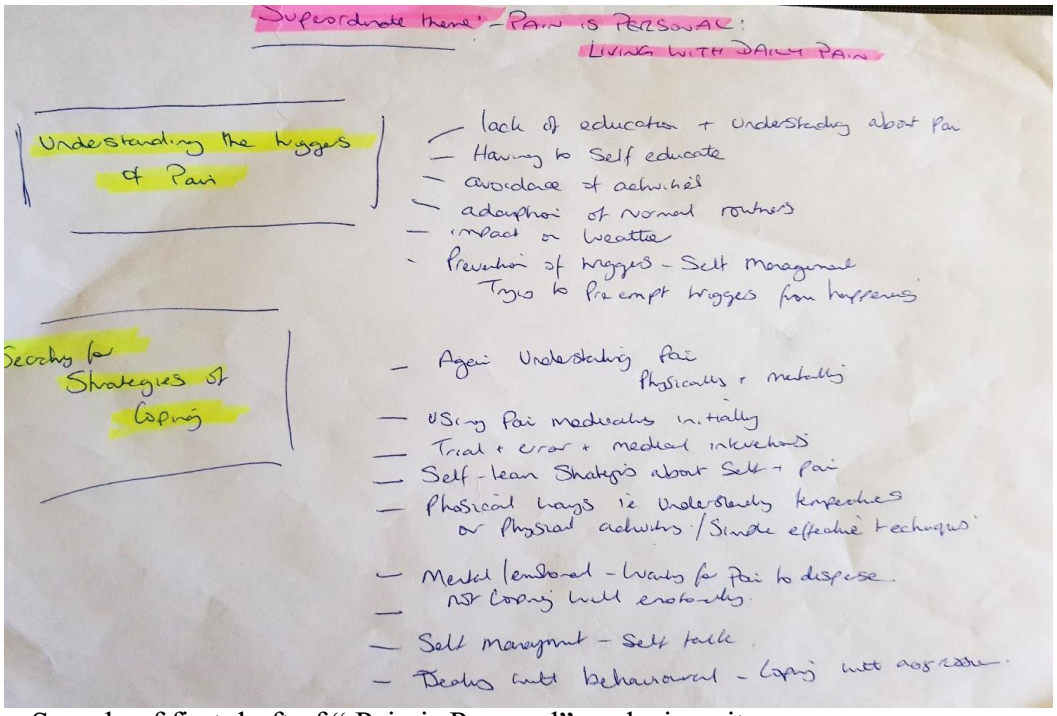
Telephone: 01443 483815 Email: gina.dolan@southwales.ac.uk

Thank you for considering taking part in this study.

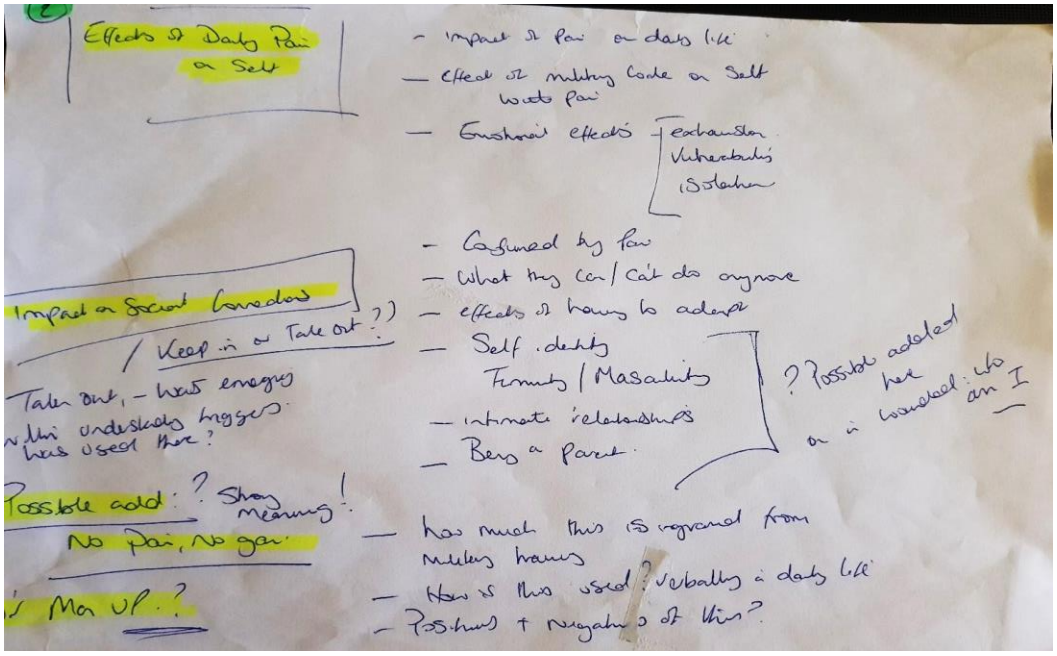
Appendix 8: Preparing for Analysis Write Up (Findings)

Pain is personal:

Copy of personal notes that were taken for developing the writing of the super ordinate – "Pain is personal." Which was the first superordinate and sub themes to be written up.



Sample of first draft of " Pain is Personal" analysis write up-

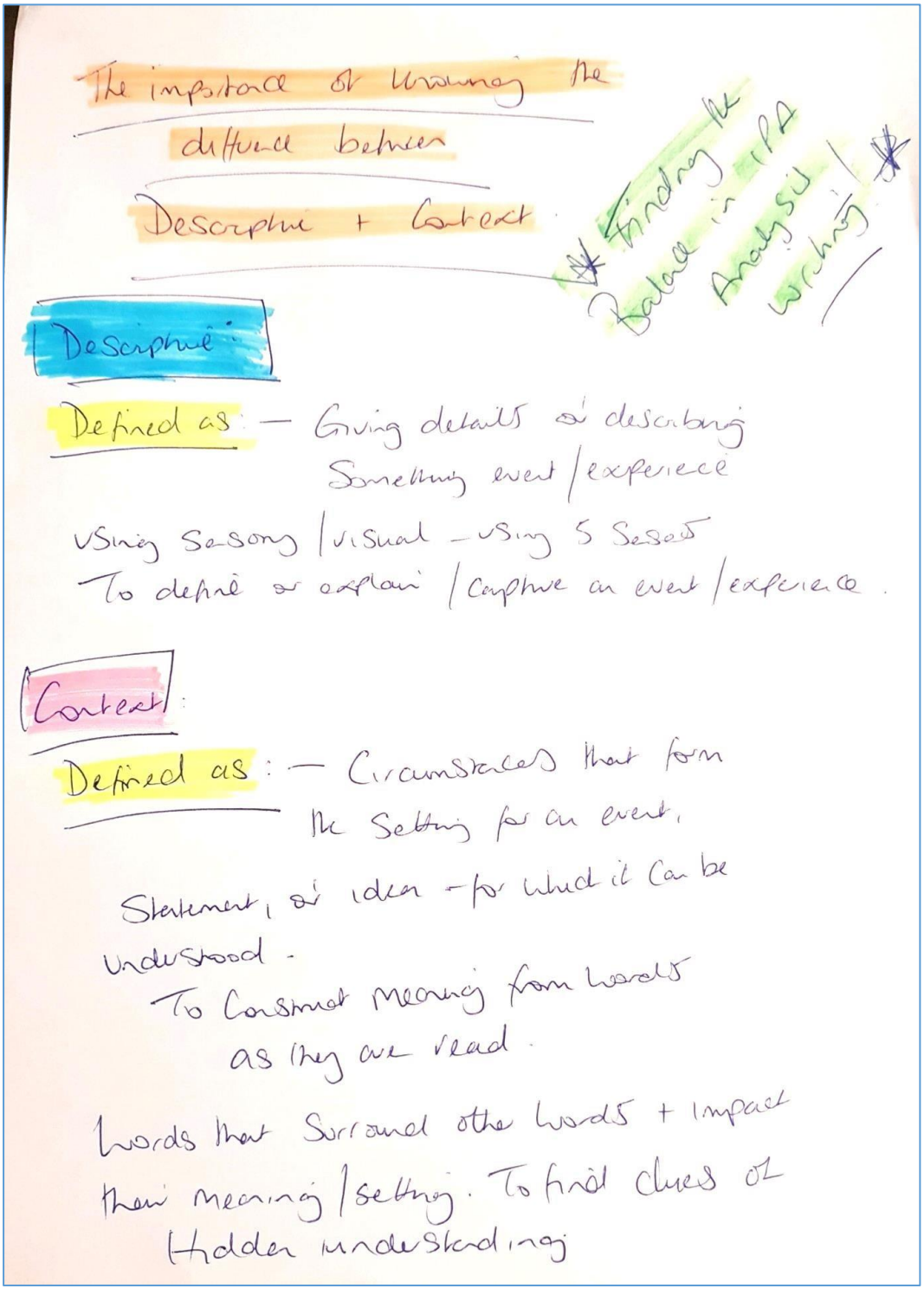


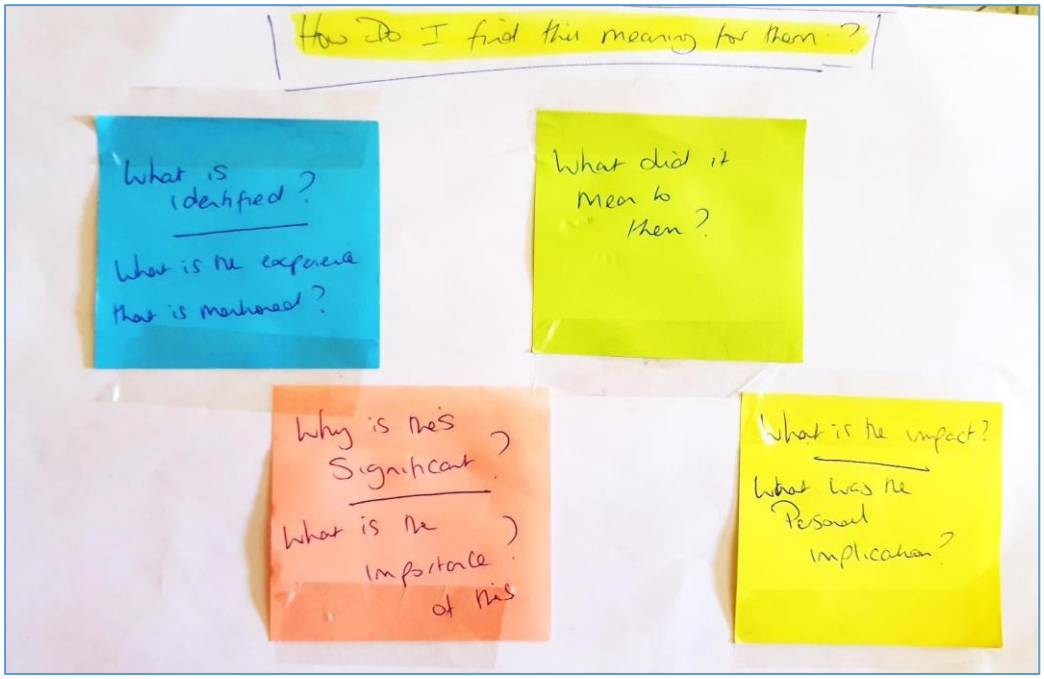
Some participants also believed that having a better understanding around their injuries and triggers for pain would give them a better ability to mentally cope-"you never know it might actually help err to prepare pain, mentally" (Jon). Not being provided information or support around pain, meant that many of the participants questioned whether their pain was physical or was it something they were mentally experiencing " Not knowing why, I was in so much pain but um about what my body was doing and why it was causing so much pain" (Jon). This made some of the participants started to question their own mental wellbeing and whether they were experiencing physical pain or mental pain -"you know find a lot of people tell you pain can be in your head" (Jon).

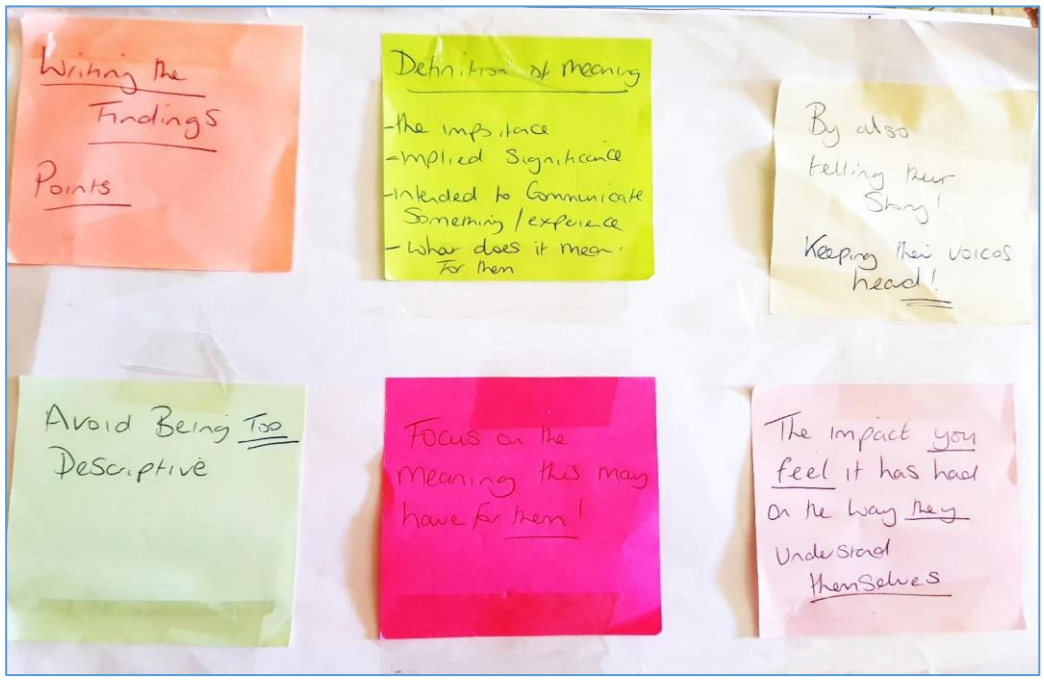
Therefore, having a better understanding about their injuries and the associated pain was also identified by participants as a key element to helping them with their mental ability to process the reason for random pain triggers. However, rather than being supported with this they had to self-educate. This further impacted upon their recovery and ability to manage, due to the years it has taken to understand their pain experience -"I know my own body now and I know when enough is enough and when to stop myself going any further" (Jimmy).

Feedback from supervision on first draft was too descriptive and not analytical enough. On reflection, personal notes were developed from feedback of the superordinate theme " Pain is Personal" analysis work, for finding the right balance between descriptive, contextual, and analytical. What the analysis means to the participants to be able to relate their voices to the world. These notes were used throughout the analysis process.

Some notes and visuals were made to help with writing the findings.



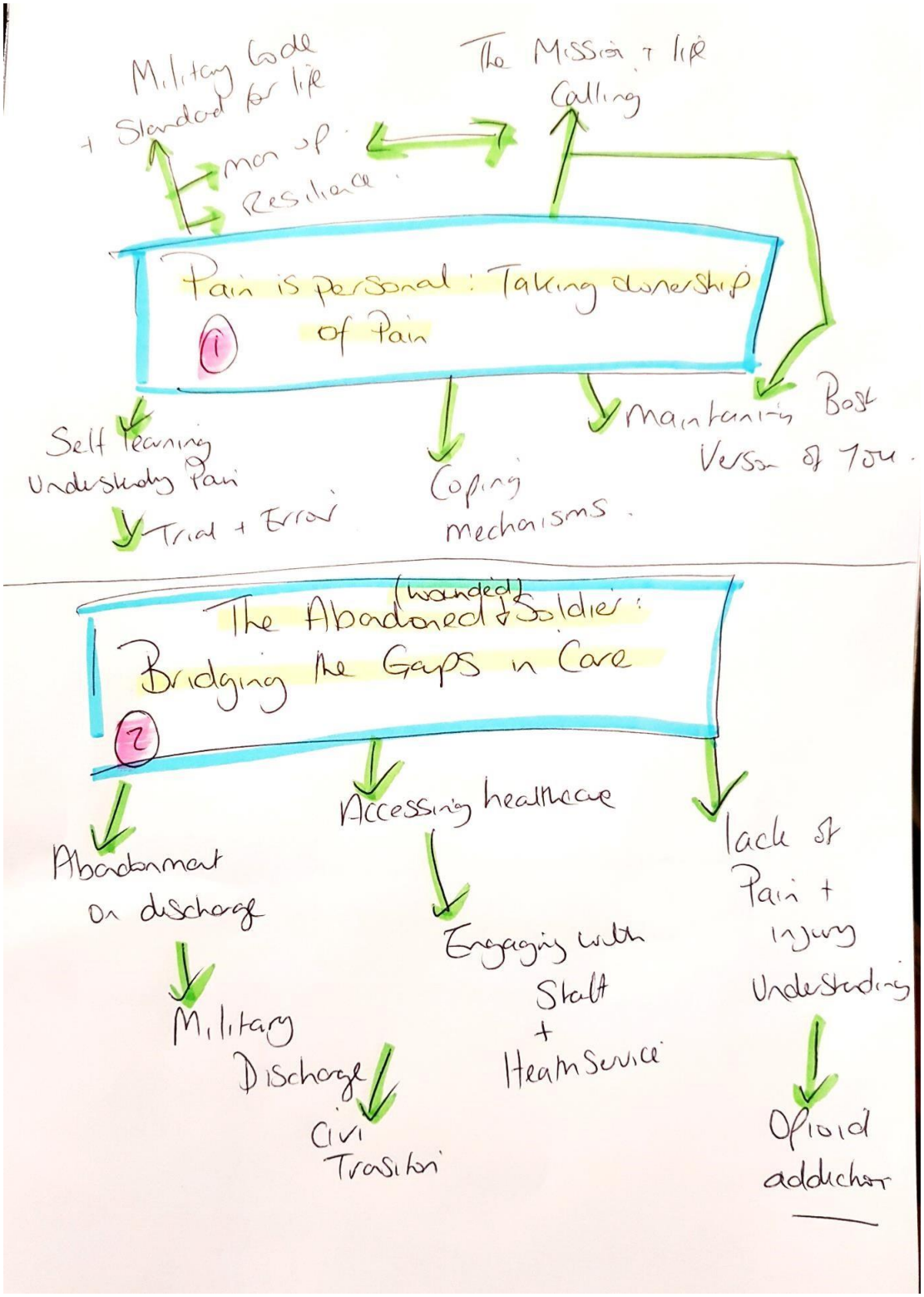

How do I find this meaning for them?
What is identified?
What is the experience that is mentioned?
What did it Mean to them?
Why is this Significant?
What is the Importance of this
What is the impact?
What was the Personal implication?

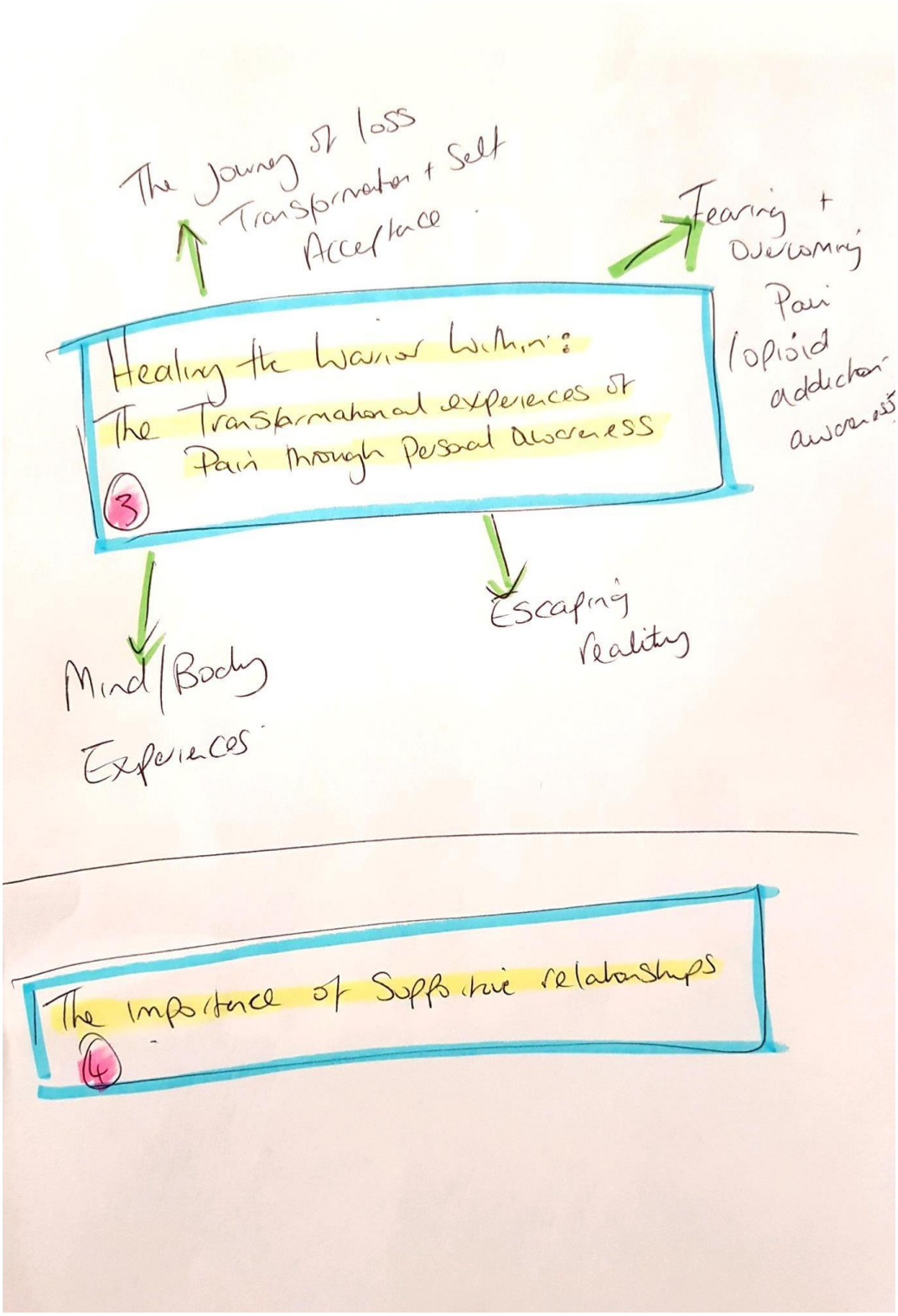

Writing the Findings
Points
Definition of meaning
-The importance
-Implied Significance
-Intended to Communicate Something / experience
-What does it mean for them
By also telling their Story!
Keeping their voices heard!
Avoid Being Too Descriptive
Focus on the meaning this may have for them!
The impact you feel it has had on the way they Understand themselves

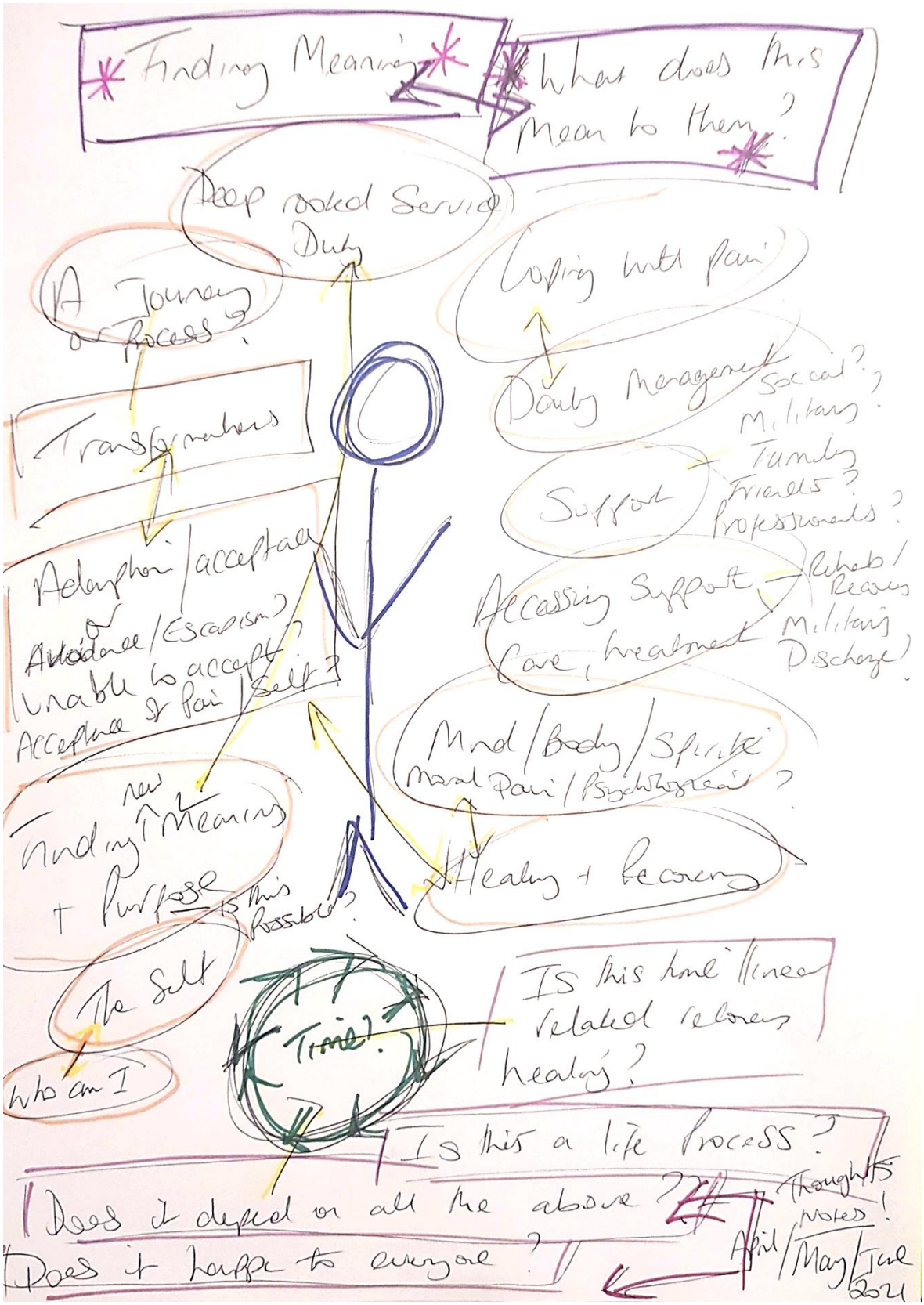
Order of Superordinate Theme Analysis Writing Process:

- Pain is Personal: - (Half was completed, due to further personal bracketing needed around pain) and further development of the sub-themes.
- Call of Duty:- was the second superordinate theme – whilst writing the analysis there was an emerging of two subthemes that blended, due to the strong connected link, creating further development of the subthemes.
- Vulnerable and Wounded: WHO AM I? - was the third theme to be developed through analysis and written. From feedback of writing this superordinate, there was concerns over calling the sub-theme "self-awareness of the mind/body experience of pain," due to the cautions around using the term "mind," which could engender philosophical debate. Therefore, the sub-theme title was changed to "self-awareness of the mental/physical experience of pain"
- Pain is Personal:- second part of this superordinate was re-visited after bracketing personal experiences through reflective practice and personal acknowledgement/development. Further subtheme development was identified and finalised with "Man Up," after further revisits of all the transcripts and analysis.
- Healing the Warrior Within: - Was the fourth theme to be developed and analysed. Feedback from supervisory team, felt that the researchers own personal experiences of pain, may have impacted on the analysis process within this superordinate. Therefore, further second rewrite was actioned, bracketing and reflective practice; before continuing. Advice was also given to revisit version 1 of the superordinate and subthemes original names for further clarity on the original notes and work, around the themes. Through this process hermeneutic cycles of both Super-ordinates and sub-themes were created, to show the in-depth full connection of all the themes in their entirety.
- I AM - Who I am now: - Was the last superordinate to be written. sub theme name Personal resilience: Fighting back with resistance was developed further during the writing stages, to Personal Resilience: Amidst Adversity, to reflect the experiences of the participants.

Appendix 9 – Discussion Thought Maps 1 & 2




The Journey of loss
Transformation + Self
Acceptance
Fearing +
Overcoming
Pain
Opioid
addiction
awareness
Healing the Warrior Within:
The Transformational experiences of
Pain through Personal Awareness
3
Mind/Body
Experiences
Escaping
Reality
The Importance of Supportive relationships
4


Finding Meaning
What does this Mean to them?
Deep rooted Service Duty
A Journey or Process?
Coping with Pain
Transformation
Daily Management
Social?
Military?
Support
Family
Friends?
Professionals?
Adaption/acceptance
or
Avoidance/Escapism?
Unable to accept?
Acceptance of Pain/Self?
Accessing Support
Care, treatment
Rehab/Recovery
Military Discharge
Mind/Body/Spirit
Moral Pain/Psychological?
New Meaning + Purpose
Is this Possible?
Healing + Recovery
The Self
Who am I
Time?
Is this time linear related recovery healing?
Is this a life process?
Does it depend on all the above??
Does it happen to everyone?
Thoughts noted!
April/May/June 2024